

which may be brought about by ineffective training.

This is not a handbook for "back to the basics". But it is much concerned to find better and more effective ways of teaching them. "Back to the basics" would be a false slogan because it suggests narrower, more blinkered concentration on particular processes. The message here is that of Bullock and *English Across the Curriculum*—the complementary nature of all primary studies and the importance of a rich diet.

Specific criticisms in the survey, however, are not softened by this general approach and there will be no shortage of would-be friends to point them out. There is no escaping the implication that, in some primary classes, the brighter pupils are not given work to stretch them. This serious charge is reinforced by the even more damaging suggestion that this is because teachers consistently underestimate what they can and should be doing, especially in the inner city schools, where there is already the greater danger that parents, too, will undervalue the children's educational potential.

Continued on page 2

No comment

"Babies at School Premises"

Following discussion of educational and insurance implications, it was agreed that babies should be allowed on School premises for the following reason only—as a teaching aid; in which case the Authority's Insurance cover was valid providing normal teaching safeguards were followed. Notes on a meeting between CRO and Secondary Education Officer.

Low cost not no-cost

The Government Think Tank, in its report on services for young children with working mothers, has produced an excellent first reader for a Prime Minister in search of a family post. The short text and large print provides a realistic blueprint for the improvement of services and the reduction of the major inequalities in the present haphazard system.

The report makes it quite clear that the fashionable idea of low-cost provision should not be confused as no-cost provision. It convincingly knocks down the notion that administrative reorganisation—such as a separate Ministry for Children—would necessarily improve anything. It stresses the likelihood that decent services for parents of young children would reduce the need for expensive remedies as children grow older.

No summary of this kind could provide all the answers. The report is somewhat glib on care for under threes when it says that child-minders, backed by equipment and training to the tune of £200 a minder, would provide the best care. We simply do not know enough about the care provided either by minders or by day nurseries to make

pronouncements on quality. Nor do we know much about the impact of recent attempts to support minders, on the standards of care they offer. The only indisputable fact is that minders are cheap and nurseries expensive.

But when it comes to over threes, the report is entirely convincing. The emphasis on the lack of services for five-to-ten-year-olds with working parents is a welcome balance to the recent welter of reports on under-fives. The recommendations—for low cost holiday and after school provision, based on schools—have worked well in pilot schemes.

Above all this report is a clear indictment of successive governments' neglect, and it makes a sane case for continued action, backed by sizeable block grants for five years to get things moving.

The TUC, with their new policy on under-fives, may at last put some political muscle behind demands for services for young children. The TUC solution—flexible combined day-care and nursery schooling on demand—presents the ideal world. The Think Tank prescriptions are more modest, and much harder to ignore.

Wielding the knife

The chieftains of the local authority associations over funding for such bodies as the Schools Council and the NFER, coupled with their forthcoming inquiry into the system governing such grants (see p. 23), are clearly looking for various reasons the Government has less influence with the local authority associations than usual—namely because it has entered a lame phase, waiting for a general election. The two major associations are now controlled by the Conservatives and this may have something to do with their refusal to go along with Oakes and EMTA's even though, at an earlier stage, their officers were encouraged to believe that they would.

Politics comes into it, certainly, but so, too, does old-fashioned parsimony and a readiness to cut off noses to spite faces. The ACC represents a large authority which feel most strongly that they have been discriminated against in the rate support grant. Two years ago they tried to cut the Schools Coun-

cil budget, as the corporate managers overrode the education interest. It could be that the AMA (which has always had its share of vociferous critics of education spending) has also become more ready to take up the issue.

What is the least objectionable hope to achieve in their various of the way in which these central organisations are funded? The issue is simple. These central bodies are, in themselves, a threat to the local authority interest: they (like the authority associations themselves) have an in-built tendency towards centralisation. That is why, if power is to continue to be shared in English education, it is important for the L.E.A.s and the teachers to play their part in bodies like the Schools Council. If, through short-sighted penny-pinching the L.E.A.s back out, they are simply inviting the DES to take over the whole show and resigning themselves to the role of agents. This can neither be good for the country nor yet for local government.

Curate's egg: HMIs primary review

continued from page 1

This, together with the call for more class-teaching and less individualisation in maths—i.e. perhaps, the clearest articulation of the conservative backlash. It may well be a justified response. But it is all too obvious that a few years ago the teachers would have been criticised for devoting too much of their energies to the scholarship class and neglecting the slower learners. The HMIs are taking of course, the position in which every child is stretched and none neglected. The teachers, while accepting this ideal, will continue to reflect on the conflicting pressures under which they work.

At the same time that Wernock is calling for a comprehensive approach to the needs of the handicapped (which would certainly put more responsibility for the learning of the least able on ordinary primary teachers) the HMIs are criticising the same primary school teachers for failing their brighter pupils.

Many of the most convincing comments are reserved for the teaching of science and of social studies. If science is to be introduced with

as the HMIs suggest, and history and geography get such cursory treatment from all-planned project work, it is uncomfortably obvious that the part of primary education, most in need of improvement, is not the basics, but the rest of the curriculum through which basic skills are extended and enriched.

As for remedies, the package of recommendations ranges over initial and in-service training, classroom practice, and curriculum design. Without saying so in many places, the package is a very good one. It is a pity that the curriculum of the curriculum is not given the same priority. It is not hard to see how a case for a "core" curriculum. More immediately, it seems to point clearly towards the introduction of more specialist staff, particularly in science and social studies, and towards changes aimed at giving responsibility to specialists to help other class teachers to plan their work.

Developments along these lines would have obvious implications for teacher recruitment and for the distribution of senior posts. But in so far as the current review is concerned, the severe lack of specialist teachers with a basic knowledge of science and the large numbers with little mathematics, it is going to take time to make much progress in this direction.

Shon Davies and Larry Toale on the new safety rules that may have missed one of the main health threats in schools

The hidden hazard

When the Health and Safety at Work Act received the Royal Assent some four years ago, there was acute alarm on the part of L.E.A.s at the likely cost, moderate concern on the part of science teachers at a possible increase in their legal responsibility and massive indifference on the part of the teaching population as a whole.

The bringing into force on Sunday October 1, of the safety representative regulations will elicit a parallel response. L.E.A.s will accept the extra cost with whatever resignation they can muster; science teachers, their worst fears allayed, will accept their inevitable role as safety representatives; teachers as a whole will remain indifferent.

This indifference could be—and in our opinion is—a gross error. The new regulations will involve a new role for worker representatives in health and safety which will be seen by future generations as a major step to industrial democracy and participation.

But persuading the employers to look at things in this light is not going to be easy. The long gap between the Act and bringing into force the safety representative regulations was largely due to the intense lobbying of the local government associations in 1975. They produced various estimates of the cost of implementing the regulations all in the region of £70m a year. Public expenditure cuts imposed throughout the system in 1975-77 resulted in severe cuts in local government expenditure and it was obvious that new safety arrangements could not be implemented without substantial extra financial support from central government. This was not forthcoming. To the annoyance of the trade unions, the government deferred the commencement of the regulations.

Local authorities are still not happy about the regulations and a resolution calling for further delay was overwhelmingly carried at the Council of Local Education Authorities' conference in Sunderland in July.

The Act is a milestone in that, unlike previous legislation in this area, it covers all people at work. It also covers people not at work risks arising out of, or in connection with, the activities of persons at work. Previous legislation had been on an industry basis. There was no specific Act for schools and colleges so that with a few exceptions the 12 million people employed in educational establishments and the 11 million pupils and students were not covered by direct safety legislation. The school secretary, protected by the Office, Shops and Railway Premises Act could legally demand that her office temperature was maintained at a pleasant 60°F, while her teaching colleagues next door shivered.

The new regulations do not extend the teacher's role as responsible parent. The employer is responsible for the health, safety and welfare of his employees; for providing safe plant and systems of work; and also for providing such information, training, supervision as is necessary to ensure safety. He cannot delegate these duties to the individual teacher. The teacher remains responsible for his own acts of omission or commission but otherwise his position is rather stronger than before.

What other changes are introduced depends on the teachers and their safety representatives. Safety representatives may be appointed by the independent trade unions having negotiating rights with an employer. The number to be appointed will be negotiable but the TUC envisages about 150,000. Some will already be representatives of shop stewards. The TUC and individual trade unions are launching massive educational training programmes for safety representatives.

While training, the representative is paid his or her normal salary by the employer under the provision of the Employment Protection Act. In the education service, the numbers of safety representatives will be a major expense if individual trade unions do not agree to their members being represented by safety representatives from other unions.

What does the safety representative do? It will be his job to:

1. Investigate potential hazards and dangerous occurrences at the workplace and to examine the causes of accidents.
2. To investigate complaints by any employee, his or her representative which relate to that employee's health and safety or welfare at work.
3. To make representations to the employer on general matters affecting the health, safety and welfare at work of the employees at the workplace.
4. To attend meetings of safety committees of which he is a member.
5. To carry out inspections of the workplace four times a year.
6. To represent his constituents in consultation at the workplace with factory inspectors or any other enforcing authority.

Safety committees must be set up by an employer following a request by two or more duly appointed safety representatives. They will:

1. Study accident statistics and trends.
2. Study safety reports.
3. Study safety representative reports.
4. Assist in development of safe systems of work.
5. Watch the effectiveness of safety content of employee training.
6. Keep watch on the adequacy of safety and health communication and publicity in the workplace.

The Health and Safety at Work Act is an enabling Act and does not in fact lay down regulations concerning, say, the number of lavatories or minimum classroom temperatures. The idea is that the main provisions of existing legislation will be retained but will be amended, revised and repealed as necessary over a number of years. Office temperature would be a simple example. At the moment the minimum is 60°F. Over the years it might be felt that this is too low and the minimum might be revised to, say, 65°F or even 70°F.

There are, of course, no regulations for schools. The nearest we can come to a code is the standards for school premises regulations of 1972 which lay down standards for schools commissioned since that date. Colleges do not even have that. Until the Health and Safety Executive has formulated specific regulations for school and college premises we will have to "borrow" from appropriate existing legislation.

At present there is no law which teachers can rely on for providing their own workplaces with safe standards for schools, but these will be waived by the Secretary of State under Section 10 of the 1974 Education Act if she feels the need. Until specific regulations for educational buildings have been agreed, we shall have to rely on the existing standards for the Office, Shops and Railway Premises Act.

Things could change. Improvements in teachers' working conditions was made recently. Mr Norman St John Steves in his speech to the NUT, said: "I am not satisfied that local authorities and school designers take the need for space and recreation into account. Teachers would be much happier group if they had more pleasant surroundings in which to work. Their precious free moments, their school hours should provide this purpose and I should like to see local authorities encourage improvements."

Shon Davies is a lecturer in Education and Larry Toale is a lecturer in Industrial Relations at the College of Technology, Merseyside.

any school safety representative could hope to achieve by using the schools are, of course, not safe. What has not been affected one for is the welfare of the staff. If there were more staff heading for breakdown under stress before, they are so still.

The only organisation which appears to be thinking along these lines is the NAS which argues that disruptive pupils are covered by Health and Safety at Work Act a potential safety risk in schools.

Whether the problems caused by disruptive pupils are basically due to those caused by potential unsafe or overcrowded premises open to some argument. The main point is, however, that the health of the worker should be directed at the threats that exist.

While teaching is by and large healthy occupation and the room by and large a safe environment, the job makes huge demands on inner resources. Stress is inevitable consequence of teacher's role. There are a number of reasons. Teaching is a performance and mistakes cannot be hidden. Preventing dissemination of gossip about the errors is equally impossible. A logical consequence of the teacher's demand for autonomy in the classroom is the knowledge that nobody else can be blamed.

Particular sources of stress are well known. There are the violent, disruptive and over-demanding pupils. Parents, too, can be violent, disruptive and over-demanding. The teacher is the one who knows where the shoe pinches. Headmasters and other controllers of resources can be a source of stress.

What, if anything, is to be done to relieve stress is a difficult question and they certainly will not be able to discuss this in their responsibility should be widened to include it.

Perhaps if it cannot be tackled directly, such things as salaries and paid educational leave can be considered. So far as teachers' pay is concerned, the essential point is that the debate should be widened. Right answers will not come immediately but the search should now.

Happier group

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Paula Hewitt addresses the ACE conference, watched by Peter Nowell.

Ban on secret records sought

by Wendy Berliner

Government backing is to be sought for legislation which would open up secret personal records on school children to parents and give them the chance to correct the records and control their circulation.

The appeal for Government help is made in a letter to Mrs Shirley Williams, the Education Secretary, drafted after the first national conference on secret records held in London last Saturday.

In the letter, Mr Peter Nowell, director of the Advisory Centre for Education, which organized the conference, urged Mrs Williams and government colleagues to look at American legislation which gives United States parents complete access to correction and control of records on their children.

"We do hope you will give this matter your urgent personal attention, and perhaps be prepared to meet a representative group in the near future to discuss the issue further," he wrote.

American parents have rights on school records under the Family Education Rights and Privacy Act, 1974. The National Council for Civil Liberties has already prepared similar legislation here. It will be published later this year and presented to Parliament as a Private Member's Bill.

The ACE conference at the Polytechnic of Central London drew 50 educationists and parents from all over the country.

Mr Isaac Evans, a comprehensive school teacher from Coventry, began his own fight against secret school records eight years ago. He announced the keeping of such records as a "filthy, dirty business".

He first found out about the records when he left farming to become a teacher and ran into

trouble from the authorities by refusing to fill in cards which asked for personal judgments on children's qualities and abilities.

What the conference should be seeking, he maintained, was to create a system which would mean that a copy of anything ever written about a child while at school should be sent to his or her parents.

Mr Nowell, ACE's director, stressed that he was not arguing for the abolition of record keeping. Accurate—but controlled—record keeping had become essential at schools and other institutions had grown larger and more complex, he said.

"We see this argument in the terms of very basic human rights—rights that are protected and acknowledged in the United States of America and other countries," he said.

Individuals had already come across abuses of the system but many others may not be aware of the effect secret and subjective judgments have on their lives, he added.

Among comments from secret records he quoted were remarks made on a six-year-old still on file when the child was at secondary school: "Having her in the classroom is like living next to a volcano which may erupt at any moment." Another, also on a six-year-old said: "Has little to say. Does not communicate well with others. Home provides very little stimulus for conversation."

Another form used to pass information between primary and secondary schools included the information that one child was the best learner in the class when the child was 15.

Views between teaching unions varied, he said, with the National Association of Head Teachers and the Assistant Masters Association favouring a lot more openness on records. But they should have little

sympathy with the illogicality of organizations like the National Union of Teachers which defended the secret records and yet argued for access to reports, records and references prepared about professionals.

Attitudes between local education authorities were also mixed, he said. Even if a school did decide to lay open basic records on children, parents the decision did not stop the school from keeping a second set of records not for parents.

London is just introducing a new type of primary record into primary schools but County Hall had confirmed that this did not stop schools from keeping other records and reports confidential.

Secret records were not the only educational practice worth challenging, he said. Others included the secrecy surrounding policy-making at both national and local level, the keeping of local authority reports on schools away from parents and teachers and the non-publication of examination results.

Mr Rhodes Nayson, a Conservative spokesman on education who compared the A level results of comprehensive Manchester and neighbouring Trafford which still had grammar schools, had "silly proved" how wrongly such disclosures could be used by making crude and unhelpful comparisons himself, said Mr Nowell.

Mrs Patricia Hewitt, general secretary of the National Council for Civil Liberties, discussed the Bill which NCCL is promoting which would give both parents and pupils the right to see school records.

She said it was impossible for parents to challenge decisions about their child's education if they were denied the documents which the authorities possessed. The campaign to open school records was part of a wider campaign against Government secrecy and to establish a Freedom of Information Act in place of the Official Secrets Act.

Funded bodies cut their losses and wait for a review

The national education bodies which had applications for cash trimmed by £55,000 by the local authorities last week have been adjusting their plans and waiting for a fundamental investigation of their funding.

All six education bodies which provide a national service at A level will be affected by the review ordered by the Policy Committee of the Association of Metropolitan Authorities and the Association of County Councils.

They are the Schools Council, the National Foundation for Educational Research, the National Institute of Adult Education, the Visual Aids in Education, the Field Studies Council and the Further Education Staff College. Only the

Schools Council and the Field Studies Council escaped without any cuts in grant last week.

The review will be into the system of diverting cash aid to national bodies direct from the rate support grant under section 11(2) of the Local Government Act, 1972 before the local authorities see it. Even though they regulate its distribution there is disagreement with the system and they want to review how bodies qualify for such funding and how much they should get.

Although unhappy about the cuts, none of the bodies would welcome a return to the old system which required them to send begging letters to every local authority making them dependent on local welfare and making budget forecasting almost impossible.

Head quits at 54—with £15,000 and pension

by Bert Lodge

The 54-year-old secondary head in the London borough of Bromley who has taken early retirement rather than resist attempts by his governors to get rid of him will leave on the last day of this term with a lump sum of about £15,000 and a pension of £4,700, his union confirmed yesterday.

Mr Raymond Boorman, head of Spring Park Upper School, a mixed comprehensive with fewer than 600 pupils, came to his decision this week. He was due to appear before a sub-committee of Bromley Education Committee on Monday when a recommendation from the school's governing body that he be dismissed was to be considered.

Mr Clifford Hayes, senior assistant secretary of the National Association of Head Teachers, said the education authority had agreed to enhance Mr Boorman's service by 10 notional years, with accompanying benefits to his pension.

This is the maximum permissible in a scheme agreed last year between teachers' unions and local authorities in which teachers can volunteer for early retirement in the greater interests of the efficiency of the education service. The

amount of enhancement is at the discretion of the employer.

The Inner London Education Authority announced last week a pilot scheme to run for two years where teachers aged 63 or over could apply to retire early. Applications would also be considered as "special cases" from any teacher over 50 with at least five years' service.

Mr Hayes said that Mr Boorman's decision to retire early would not prevent the association from continuing its opposition to Bromley Education Committee on its handling of the case. It refused to recognize the validity of Monday's disciplinary hearing and appealed to the Education Secretary under section 68 of the 1944 Education Act.

The union's opposition is based on the proposal of Bromley to proceed with the hearing against Mr Boorman on the basis of allegations extracted from statements by teachers who were, however, not to be called as witnesses to substantiate what they had said.

It is understood that all the major teacher associations have written to Mrs Shirley Williams, Education Secretary, expressing their concern.

Tax appeal on working women

Lady Howe, deputy chairman of the Equal Opportunities Commission, pleaded this week for tax relief on child care expenses incurred by working women, including the self-employed.

Forty per cent of today's working population consisted of women, she said. The commission was making radical suggestions to the Government to get the whole subject of women's tax relief under discussion for women out of the Victorian era. "Think tank on nursery provision, there was discrimination in the

tax system, she told the Black-Equal Opportunities Commission. While the self-employed who worked from home could claim for rents, rates, light, heat and even cleaning, they could not claim for the cost of child care.

This indicated that the worker was assumed to be a man with a wife or relatives to look after the children. This rule worked against a woman's ability to take a job and amounted to indirect discrimination for women out of the Victorian era. "Think tank on nursery provision, there was discrimination in the

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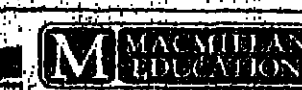
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Tories in public policy split over exam league tables

by Wendy Berliner

A split on education policy within the Conservative Party became evident at the weekend when Mr Norman St John Stevas, Shadow Education Secretary, publicly rejected any idea of publishing league tables of exam results.

His speech—to constituents at Chelmsford on Friday—came at the end of a week in which his junior, Dr Rhodes Boyson, MP, had grabbed the headlines by comparing exam results from Manchester and nearby Trafford.

The normally confidential results revealed that a child in Trafford had three times more chance of getting an A level than a child at school in Manchester. Suburban Trafford still retains selection for secondary education while Manchester, with many of the problems of the inner city, has a comprehensive system.

Even though Mr St John Stevas made no personal reference to Dr Boyson, he made it clear that although he would expect individual schools to publish exam results, league tables were not part of official Conservative policy.

"What at first sight may look like low achievement may be quite the reverse in the light of the history of a particular school and a particular area", he said.

The Parliamentary Education Committee had discussed the matter with Conservative leaders of education committees and was in favour of every school publishing a prospectus which set out its approach to education, its teaching methods, its specialities and its achievements, including its exam results.

"We do not favour publication of league tables of results. We want to see the results placed in their appropriate social setting and in the context of the particular school and its problems."

The disagreement within the party widened the following day when the Conservative Party's right wing Monday Club came down firmly against Mr St John Stevas's view.

that exam results should be seen in a social context.

Such a view, it said, could mean that children from more prosperous areas could be further back in the queue for higher and further education even though they had better exam results.

A spokesman said it would lead to "a form of social engineering and undesired egalitarianism which the Conservative Party ought to deplore rather than justify".

Support for Dr Boyson was, however, overshadowed by a number of criticisms, this week.

Mr John Gray, ex-president of the National Union of Teachers, called on Mrs Margaret Thatcher, leader of the Conservative Party, to sack him. At a meeting of the Bishop Auckland and District local association of the National Union of Teachers he said: "I do not expect such an action to silence him, but I do think it would show that she has regard for standards of debate and behaviour and will not tolerate a lack of respect for the school which are doing a good educational job."

Mr Gray, who is head of Geyt Bank Comprehensive School, Stockport, was quick to point out the irony of comparing sets of exam statistics without reference to local conditions.

He recalled that he took up his job in the year Dr Boyson finished as head of Highbury Grove, an inner London comprehensive. That year O-level exam results were relatively poor at Geyt Bank, yet the O-level results at Highbury Grove were lower even though Dr Boyson never ceased to sing the school's praises.

"To apply Boyson's law to those figures, ignoring as he does all other relevant factors, we can see that in a bad year we were a better school. Are parents expected to be so glib as to accept that type of argument without question?"

Mr Jack Schinfeld, head of Spurley Hey High School, Manchester, which was bottom of the A-level league table, has invited Dr Boyson to pay a surprise visit to the school "to correct any mistaken views".

Nine of the school's sixth form took A levels this year and there were nine passes.

In a letter to parents Mr Schofield admits this is nothing to boast about but points out that the school cannot do much about it when most of the pupils leave at 16. The year before, the school had achieved 19 passes at A level.

"I'm not satisfied with our A-level performance", he wrote.

None of the teachers are. There is no complacency at Spurley Hey. But we will never be a leading school at A level until parents are prepared to let their children stay at school and show people like Rhodes Boyson the quality of Manchester children."

Passes at O level were improving, he said, and the school had distinguished itself in the world of music, sport and the arts. Added to this, the school was oversubscribed by parents.

The National Union of Teachers' executive has condemned Dr Boyson for creating "a crude and misleading comparison" of the exam results in Manchester.

There was equal cause for concern, it said, in the actions of Oxfordshire County Council which has decided to publish a league table of exam results at its schools against the opposition of its teachers and its education committee.

Mr Fred Jarvis, NUT general secretary, warned that teachers may have to review their role in the running of the exam system if they believe the results are being misused. Mrs Shirley Williams, Education Secretary, added her contribution to the debate when she defended the record of comprehensive schools during a speech at Goff's School, Chesham, last Friday. Nearly twice as many school leavers, she said, now get A levels as got them before comprehensive schools were introduced.

There were good and less good schools in the comprehensive system and all educational systems. "More to the point, there are pleasant prosperous neighbourhoods and disadvantaged, run-down neighbourhoods, and the children from these different areas have widely different chances in life."

"To compare schools without reference to their environment or their catchment areas is to make the crudest mistakes."

ILEA results pose puzzles

Inner London's 1976 exam results revealed sharper contrasts of achievement between neighbouring schools than could be explained by social profiles, according to a survey by ILEA, which recommends routine reporting of exam results.

Greenwich, for instance, had the highest intake of bright and average children but got fewer A level entrants than divisions with substantially fewer children banded higher in ability. Hackney, with the lowest intake of high ability children, had only slightly fewer A level passes.

Mr Peter Newman, chief officer, said the conventional explanation of differential results was that they were largely determined by the social environment of school and child. "This may be so, but the results do not appear to fit the social profile of the schools."

The overall A level pass rate in Inner London was lower than in England and Wales, but, in his report to the schools sub-committee, Mr Newman says: "There is no reason to believe that the results are due to the education service, which has cause to be grateful to it. Conversely, it provides no grounds for complacency either."

Mr Robert Vignar, Conservative Opposition spokesman on the ILEA, is demanding publication of results of individual schools. "Parents have a right to know to help them in their choice of school," he said.



Dr Richard Hoggart: combined degrees the biggest culprit.

Degrees are 'second rate'

Some of the new liberal arts degrees amount to no more than second rate higher education, Dr Richard Hoggart, chairman of the Advisory Council for Adult and Continuing Education, says in a paper published by the council last week.

It is sometimes the very people who most assert the importance of universities maintaining their standards who are ready to prescribe the second class for others, Dr Hoggart says.

Some of the degrees now available through institutes of education were approved after relatively cursory inspection and would hardly have passed the normal internal scrutinizing bodies.

Dr Hoggart, Warden of Goldsmiths College, London, told the TES that what he had in mind were the degrees, particularly in combined rather than single subjects, created by some of the new institutes of higher education.

Provision for people in their mid-20s to mid-30s who had failed to get the educational conveyor belt but now wanted a university training was still quite inadequate. They were looked at dubiously by some university teachers and employers. At their age they were expensive to employ.

"In short, the universities should be looking much more at second-class entries."

After Expansion: a Time for Diversity, by Richard Lingard, ASACE, 19b De Montfort Street, Leicester, LE1P 5DP.

Pupils give schools good marks

Britain's schools and colleges have the approval of a large majority of their teenage pupils according to the results of a nationwide survey published this week. Nearly two-thirds rate their education as good or better, than good.

The survey was carried out for BBC Radio 2's Jimmy Young Show by NOP Market Research Ltd with a sample of 1,847 15 to 21-year-olds. There was little difference between the attitudes of youngsters in the Scottish education system and those in England and Wales.

The big difference was between social and economic groups. More than three-quarters of those in class households, the higher, rated their education as good or better, but only half of the lower class group did.

Eighteen per cent of those who had left full-time education at work, with unemployment concentrated in the lower income groups, were in the C1 class, the very lowest bracket.

While nearly two-thirds of those in work were pleased with their job and its prospects, only a quarter of the unemployed thought their chance of finding a job was fair.

Universities look for solutions to falling entrant standards

Universities will have to find ways of coping with the lower standard of entry to comprehensive schools, Professor Robert Whelan, vice-chancellor of Liverpool University, told the Head Masters Conference in Exeter this week.

"Among the possible solutions were admitting fewer students, lengthening all degree courses to four years, introducing three year pass degrees with an extra year required for honours, reducing the subject matter covered by one third or compressing some degree courses into two years and extending certain related courses to four."

24,000 still seeking teaching jobs

While more than 80,000 teachers leave work in the month nearly 24,000 teachers are still looking for jobs, according to the National Union of Teachers.

At the same time, the Department of Education and Science figures of primary and secondary school classes of over 31.

Department of Education figures in March showed that teachers who qualified in May had still not found jobs in May this year. The DES estimates that 32,000 teachers quit that gave a jobless total of 23,500. Figures from the DES show that 80,000 teachers left the profession in 1977.

"Therefore, on the basis of the year's employment rate we expect 12,136 to be unemployed at the end of September," the DES said. Added to the March figures, that gave a jobless total of 23,500.

Figures from the DES show that 80,000 teachers left the profession in 1977. The unemployment rate in August, together with 7,000 adults, making a sharp drop in the overall total of unemployed at 12,136, had risen progressively in July and August.

See differences, schools told

Poor performance at school is caused by pretending that all children are the same, schools are told by a minority of differences are unique.

According to Mr Roger Jenkins, deputy director of the National Information and Advice Unit, it is impossible for pupils to be the same. The council's book, Disadvantage in Education, is a guide to the differences between schools.

"To grow up in British society as a Muslim, Chinese or a 'West Indian' is a unique and complex experience which teachers would be wise to ignore," the book says.

"Schools, therefore, should not try to ignore ethnic characteristics, but to celebrate them. To allow an unqualified person to act as a disciplinarian is a disaster for the majority of pupils."

Disadvantage in Education, by the National Information and Advice Unit, is a guide to the differences between schools. It is available from the National Information and Advice Unit, 11 Anson Road, Manchester, M4 6AN.

Hiring and firing starts race row

Usha Rai

Weeks after Mr Jagtar Atwal told he was hired as a teacher at Park School, Wolverhampton, he learnt, he says, that he was no longer wanted.

The appointment and rejection sparked off a controversy that has acquired racial as well as racial overtones.

Mr Atwal, who had taught for 15 years at Dunstall Hill primary school, was interviewed in May this year for a Scale 3 post in the basic department. He was to start this term. But he was then told that the education sub-committee had failed to ratify the appointment because, it felt, he lacked experience.

Three Labour members of the school governing body, Mr Jan Bishen, Mr Bishen Dass and Mr Singh Duhra, have resigned in protest.

The committee of the Wolverhampton branch of the National Union of Teachers wants an independent public inquiry into the reasons leading to the original decision which followed.

Mr John Bowdler, the executive member for the region, said this week that the education authority had done nothing illegal in rejecting the appointment. Mr Atwal had been told that he was not qualified for the post.

"It is unusual for an appointment made by a school governing body not to be ratified, but it is not unusual for a school governing body to be a lot of political infighting among the councillors. Of the 10 members, only two are teachers."

The board appeared to rise to the challenge. It appointed a director of courses, Mrs Barbara Breckell (who had wide experience as a nursery teacher and primary school head).

Mr Atwal, however, feels the decision was a brown skin. He said a Labour meeting of the Anti-Nazi League last week, "The National Union of Teachers cannot use the normal excuse: 'he cannot speak the language and does not mix socially'—his qualifications are second to none."

Seventy-five per cent of the children in Valley Park School were coloured, but when he sought the school there was not one coloured teacher on the staff. With his knowledge of Hindi, Punjabi and Urdu, Mr Atwal feels he could have been of great assistance to the school.

Wolverhampton, he said, has a record of treatment of Asian children. Fifty per cent of the coloured children in the inner area are in the school. There are not more than two or three Asian teachers in the school, he said.

He accused the NUT of shuffling the deck over his case. An accepted procedure of appointments had been followed, but the union had not shown sufficient concern.

However, Mr John Bowdler, said he had offered to tell the chairman of the education committee as well as the director of education that he was planning to do so.

Union faces revolt after ban on anti-Nazi group

by Caroline Haydon

The National Union of Teachers is facing rebellion from local associations angry at an executive ban on an anti-racist organization.

The union has ruled out links between local associations and the Anti-Nazi League on the grounds that the league's aims are outside those of the union. It has also banned any official link with Teachers Against the Nazis, the teachers section of the ANL.

So far about 20 local associations have believed to have asked about the executive decision and asking that to be rescinded. None has done so. About 15 other unions, including the National Association of Teachers in Further and Higher Education and the Society of Civil and Public Servants, have already joined ANL.

Mr Dick North, the only executive member to vote against the ban, said this week that the reason given for the decision was "the real danger to the executive decision was the fact that members did not approve of the left-wing politics of some members of the ANL."

Independent inquiry ordered after administrative upheaval. Virginia Makins reports

Nursery board to call in nanny...

ARGYLE HOUSE

29-31

After months of administrative crisis and deteriorating relations with its staff the National Nursery Examination Board (NNEB) is to commission an independent inquiry into its "future role". It is also advertising for a new chief executive at £10,000-£11,000.

The NNEB is responsible for the only professional qualification that crosses the boundaries between health, education and social work. Holders of an NNEB certificate can work in day nurseries, schools and hospitals.

The courses are open to school leavers with minimal academic qualifications—the NNEB has always resisted setting specific O level requirements. Numbers in training have risen steadily: there are currently 11,000 students, almost all girls, in training, and the courses are heavily oversubscribed.

The board was set up in 1945 to bring together various sponsors of training courses—private nursery colleges, the Royal Sanitary Institute, and various bodies set up to train child care workers.

The Royal Society of Health (RSH) gave the new board office room and administrative support, and eventually the NNEB took on the status of a private charitable trust. Twenty-six organizations, including representatives to the board, its income, mainly from exam fees, was £93,679 last year.

The immediate cause of the recent crisis was a decision by the RSH that they could no longer house the NNEB. But the roots go back further—notably to a decision in 1974 by the two departments concerned with the NNEB, the DES and DHSS, that they would withdraw as full participants and appoint non-teachers as "associates".

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advised) to develop courses and maintain standards. An assistant director was appointed in 1975, and a third professional adviser to cover the north of England was almost appointed last year.

Statistics of numbers of students in training, and their subsequent employment, were collected for the first time. A pilot advanced certificate for qualified nursery nurses started at Bradford College in 1976, and another has just started at the Suffolk College.

But early this summer the course directors wrote a paper on the future of the NNEB—a paper that has not yet been discussed by the board. It concluded that: "Evidence suggests that the activities of the board have for some time been characterized by indecision, and that it seems structurally incapable of speedy response to social, economic and political change."

It suggested four possibilities for the board: that it should hand over its responsibilities either to the Central Council for Education and Training in Social Work (CCETSW) or to the City and Guilds; that it should carry on much more actively in courses which would lead to "continuing diminution of prestige"; or that it should face up to current challenges and move with "determination and above all speed".

The assistant director of courses, Miss Stella Edridge, has now left. So have the two experienced clerical staff who serviced the committees and day-to-day running of the board. The permanent staff is down to two.

It is clear that the breakdown in relations between Mrs Breckell's staff and the chairman, Miss Bessie Wright (retired principal of a small Nottingham FE college) is partly due to personality clashes.

Faced with the move from the RSH, Miss Wright, guided by one or two other board members brought in Mr Ted Higgins, retired director of social services for Wandsworth, to "hold the fort" as a temporary part-time chief executive.

He organized the move to new offices and centralized decisions in a new executive committee, set up to advise on and implement policy, and manage the board's finances. One consequence is that development work started since 1974 appears, for the moment, to have got stuck.

Meanwhile, public criticism of the NNEB has been building up. The new TUC policy on under-16s states: "It is, in the General Council's view, disturbing that the sole body which provides courses for nursery nurses and nursery officers is neither accountable to the DES or DHSS, has no union representation and no validating body."

Community relations workers point to a failure to prepare students for cultural and ethnic differences. The women's movement complains that the training proclaims the "normality" of mothers who stay at home with young children and the "deviance" of working mothers.

Social workers consider that the courses do not prepare nursery nurses to work with families in crises who qualify for scarce day nursery places. And the nursery nurses themselves are becoming more militant about their low status. There are intrinsic difficulties in designing the training courses. Studies are 30 per cent general education, 30 per cent vocational and 40 per cent on-the-job training. The vast majority of practical work takes place in schools. One third of students have no training with under-16s.

The new advanced certificate was designed to meet some of the criticisms. But when it ventured into in-service and advanced courses, the NNEB bumped up against other interests—namely the Social Work Training Council.

One difficulty is the range of employees the NNEB must satisfy. In 1977 19 per cent of newly qualified students went into schools; 13 per cent into social services, and 7.5 per cent into health, 13.5 per cent became private nurses and 12.5 per cent were still unemployed.

Another is the lack of career structure for nursery nurses. The new CSS may provide an avenue for day nursery staff, but those working in schools and hospitals tend to reach their maximum potential in terms of salary and responsibility in a very few years.

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In 1974 a seemingly rather ordinary pamphlet called *Right to Read*, by the British Association of Settlements, broke some disturbing news. An astounding 2 million adults, it said, needed help with reading, writing and spelling.

It was hardly credible and it took some time for the shock to die down. Then began a mobilization of forces which led to one of the most exciting and innovative campaigns the education world has seen—the Adult Literacy Campaign.

The history of the adult literacy campaign is reviewed in two booklets published this week, *Adult Literacy—A study of its impact*, produced by the National Institute of Adult Education, and *Adult Literacy in 1977/78*, a report by the body set up to organize the campaign and disburse government cash, the Adult Literacy Resource Agency (Alra).

Many teachers were involved in the campaign. When appeals for volunteers went out, it was mainly young, educated women who responded.

In some cases they faced more than they expected. As one re-

ported of a student "he has tried to commit suicide twice because of it (illiteracy). It is fantastic the things he gets up to to hide it. How he has managed to build up his business I don't know."

But not all students had such extreme problems, and tutors were often surprised to find how

"normal" a student was. "But why had the education system failed them? The reasons given varied from illness and frequent change of school or plain dislike of school to a vague 'just got behind—never caught up'."

Some students blamed their schools, very few blamed their parents. Normally they attributed their lack of progress to their own inadequacy, laziness, the lack of understanding on the part of teachers, or broken schooling.

What was striking about all the recollections of school, however, was the common belief of students that if they had been given some

Lessons from literacy



by Caroline Haydon

individual attention at school all would have been well.

But there was another jolt for teachers—the problems were not all in the past. "One embarrassing consequence of the success of the Adult Literacy Project is that the BBC is receiving and passing on to Leas telephone calls from pupils still at school, and letters from their parents, asking for help which they cannot get in school."

It advocated abandoning methods that did not work and trying new ones—setting up one-to-one pairs in schools using parents and sixth-formers. One school even adapted a redundant caretaker's house as a reading centre.

Alra concludes that literacy skills need to be checked on throughout the school career.

It calls for a great deal more attention to be given to literacy in the training of primary, secondary and further education staff, as well as those in the industrial training field.

This last is an important point. Under the campaign at least 125,000 adults have received tuition in the last three years. All Leas now offer individual and group tuition for those with reading and writing difficulties. They and voluntary organizations now provide for some 70,000 students a year—in 1974 the figure was only 5,000.

Now some 30,000 to 40,000 students are coming forward each year, remarkable success for a campaign mounted at a time of rising cutbacks and little optimism in adult education circles.

But it still falls short of a "target" figure of 2,000,000. It is still a need for a continuing offensive on adult literacy that that offensive must be based on the vocational training field.

For many, and particularly 19 year olds, it says, literacy need to be imparted as a part of the reaching of vocational training and this end Alra has urged the power Services Commission to include adult literacy in their training programmes without success.

With the publication of last report, Alra backs the field, leaving the Leas the Adult Literacy Unit in 1980, to continue on adult literacy. The report says that there is still much to be done. *Adult Literacy in 1977/78* £1.75.



Usha Rai

Usha Rai, of the Times of India, looks at a black workshop scheme in Nottingham

Training with pride under the Westway flyover

A workshop scheme to train young, unemployed black people of Nottingham Hill, London, in such skills as motor mechanics, engineering, woodwork, electronics and welding was opened officially this month, two years after it was initiated.

The idea for the workshops came from a small group of West Indian skilled men as a positive response to the problems facing their children in an area where 50-60 per cent of young people are unemployed and many constantly run into trouble with the law.

Money for the scheme came from several sources. There were grants from the Gulbenkian Trust, gifts from the British Council of

Churches, the Society of St Vincent de Paul and Cardinal Hume, and an appeal in the Catholic Herald brought in considerable aid.

Ten unemployed youths were engaged to build the workshops. None of them had worked on a building site before but the fact that they were working on a project for "their own kind" gave them added incentive.

One of the young men who worked on the project, under the Westway Flyover at North Kensington, says with pride "A lot of people thought we could not do it but we have. Also all 10 of us have just completed a year at major colleges. We now have a sense of achievement, a self awareness and respect knowing we have participated in our future."

Over £35,000 has been invested in the project so far and the workshops are recruiting the first batch of 65 young people for the year's general training. The training will be conducted with the help of the Manpower Services Commission and the general instruction will be rounded off with special training in a chosen skill. The recruits, aged 16 to 18 can either go on to further training or look for employment after finishing the course. Though the craft training workshop was originally the idea of the Teamwork Training Scheme it soon found the Community Action Centre, an umbrella community group, seeking its assistance to set up its own embryo building workshop project. While Team-

work was setting up a workshop for training in motor mechanics, welding, paint spraying and painting, the CAC wanted workshops for training in work and electronic trades. An adjoining plot work on the workshop was begun. Initially the sister project received a lot of sympathy and financial support. The first official breakthrough came in September, 1976, when the Job Creation Programme granted the project wages for 10 young people and two supervisors to start to build their own workshop. Early this year the CAC Teamwork projects decided to gamate in order to reduce head costs and to give each some experience of all the



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Think Tank prescription for the nurseries

The Government Think Tank last week recommended major expenditure and changes of emphasis in services for children of working mothers.

The two main findings of the study are that:

(a) In Great Britain there are some 900,000 children under five whose mothers have a job; the Government provides or controls full and part-time day care for about 120,000 children in day nurseries and with child minders. There are a further 24m children between the ages of five and 10 whose mothers work and for whom virtually no provision is made outside school hours.

(b) Such services as there are involve a wasteful use of resources by providing a service which is expensive per capita and yet is aimed at dealing with only a part of the needs of the children concerned.

The main recommendation is that the two major services for young children: day nurseries and nursery education should be reorganized so that both institutions meet the needs of the children concerned for education and care rather than maintaining the existing divisions. The objective is to provide young families with a reasonably coordinated service of care, education and socialization. The main objective is to create some kind of order and equity out of the ad hoc service provided at the moment.

Some of the extra money necessary to improve the services for young children and their parents could be found by reordering priorities within the education budget to ensure that young children receive greater recognition of these needs.

For example, if half the additional £150m which this report proposes should be spent on services for young children, much more could be found from existing education expenditure. It would involve a re-orientation of priorities within the programme of major public services. The fact is that the current situation is not sustainable. The services we have at present will need careful thought and planning

by both central and local government; but this means that long-term planning should be a matter of urgency. A certain amount can be done without major expenditure by improving administrative arrangements, making more imaginative use of existing resources.

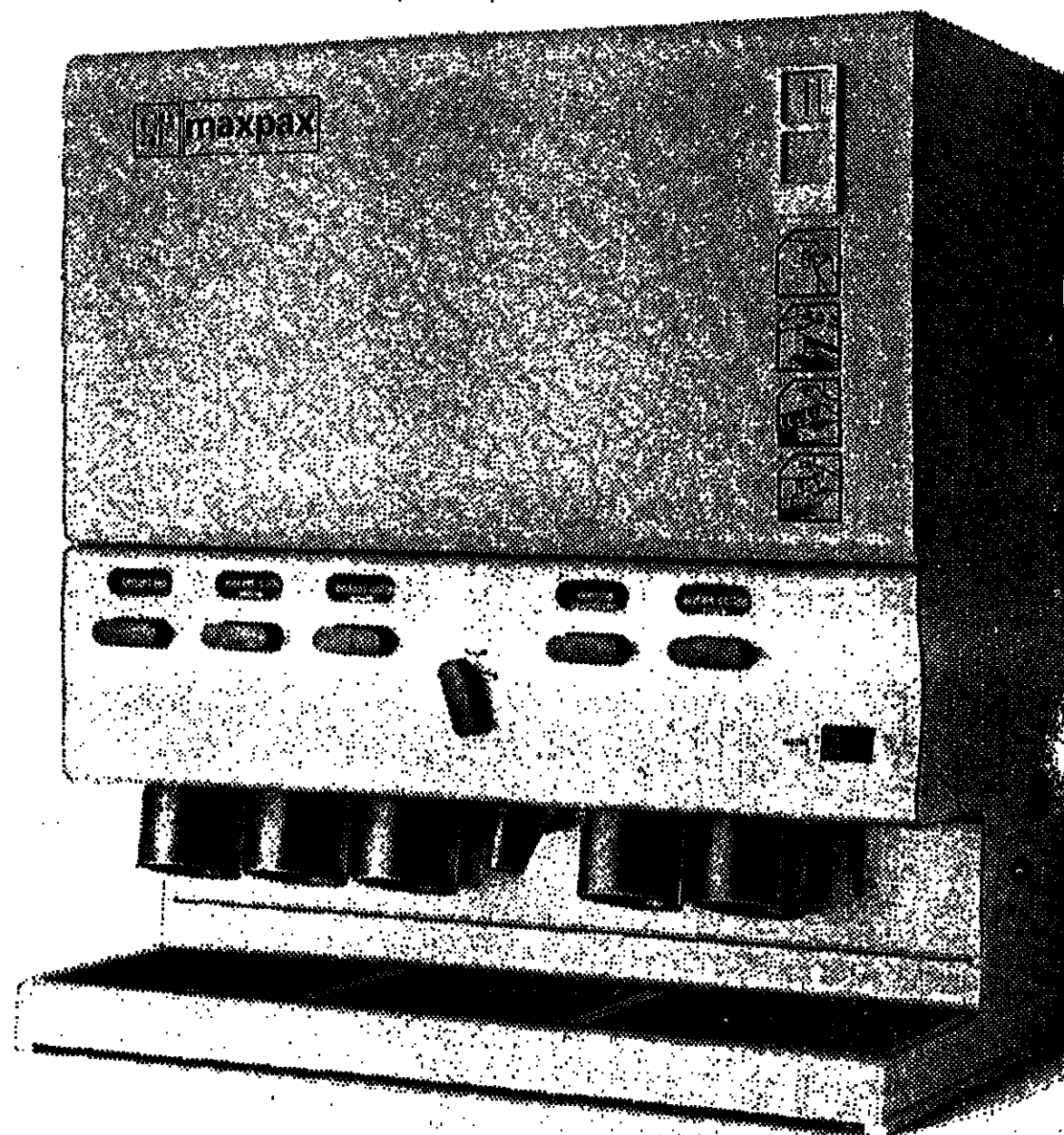
However, a reasonable and block of capital and current expenditure needs to be made over a period of years to allow expansion to take place and to be undertaken in a way. The type of expansion we have proposed has a very long time horizon.

The organizational changes have proposed for central government are perhaps the most difficult to implement. We have suggested a unified policy group, overseeing departmental boundaries, choosing links with the departments traditionally involved in child care and with ministerial oversight. Both main departments, we believe, that this is, at best, an organizational device for coping with existing unsatisfactory arrangements.

It is in no sense a precursor of the "Children's Minister". We do not consider such a Minister could play a constructive role in the development of child care or the policy function. We are proposing a special grant and a policy group to ensure that the development of child care is properly planned from the start. The long-term future of both financing and provision of child care would be best considered within a programme has been running for several years.

One of the most important elements of the new service is that local authorities should be flexible in their use of resources that they can provide in the community and kind of advice and help provided. There would be a set of common standards which local authorities would be expected to meet.

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Track and Field

Athletics training in the GDR (East Germany)

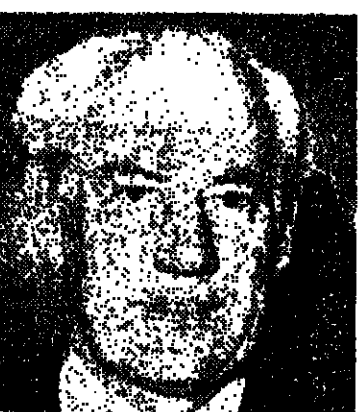
The German Democratic Republic (East Germany) has long been recognised as one of the world's foremost athletic nations. The performance of its sprinters and sprinters have often astounded the world. This book, published for the first time in English, shows how they do it.
'Track and Field' is the standard text book and reference work of athletics training in the GDR. It deals with technique, tactics, methodology and the organisation of training, as well as incorporating the most recent advances in relevant sciences.
Available from most good bookshops, or direct from the publishers, Central Books, 37, Gray's Inn Road, London WC1X 8PS (add 70p for post and packing).
For regular up-to-date information about sports in the GDR, with 30 pages of detailed photos and colour photographs it is published in English at times a year. An annual subscription costs £4.50 and can be placed with Central Books at the above address.



School to work

East meets west on training

Top bureaucrats from behind the iron curtain will come to London next week to discuss with Western civil servants how they spot and train their successors. It is Britain's turn to organize the annual international conference on the development and training of senior civil servants.
Poland, Hungary, and Romania are among the 25 countries sending representatives, who will talk about the problems of recruiting, identifying, and training those "who are, or are destined to become, higher civil servants".
The conference will explore the influence of national traditions and practice in training and education on civil service organizations, and the way the structure of each service influences its training.
Lord Peart, the Lord Privy Seal, will welcome the representatives, who will be addressed by Lord Croom, former head of the home civil service.



Sir David Orr: trained people are the resource in shortest supply

Boards' future depends on finding a role

The industrial training boards have now virtually worked themselves out of a job, Unilever's chairman, Sir David Orr, told the annual conference of the British Association for Commercial and Industrial Education at Cambridge.
The boards had been so successful that there was little mileage left in the system of levy exemption, he said. There might now be a new role for them in manpower planning.
"We are waiting to see what proposals such makes to the Manpower Services Commission. The outcome will determine what role, if any, the ITBs have in the future," said Sir David.
Sir David's remarks are in some ways in line with views already expressed by an earlier BACIE conference by the TUC, which sees the new national training system the commission is trying to introduce as a last chance for the boards to justify their continued existence.

Unions join in industry education

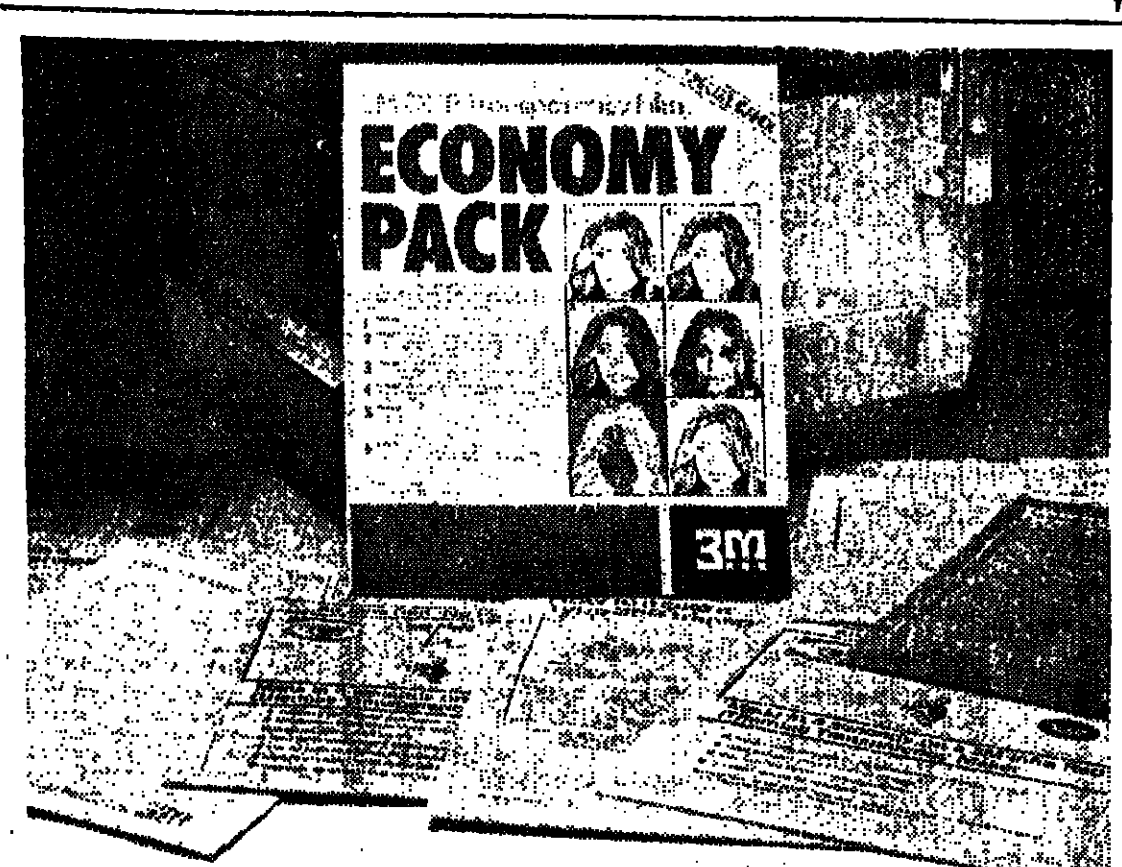
Trade union officials and employers are to be sent into schools to counter the influence of teachers and their organizations. They will be trained to counter the influence of teachers and their organizations, to take part in running such as work experience.
Worried by the realization that the unions have left industry to develop its own training, the Trades Union Congress made catching up with them a priority for its expanded education department. It believes that the unions involved in education only to ensure that young people have a balanced picture of education and that the scope of education is restricted to the concerns of employers.
The education department has already begun a survey of the attitudes of the 40 or so organizations now concerned with training in schools and industry in order to check reports that of them appear deliberately steering schools towards training in trade unionism.
During the next few months the department will produce a range of briefing material for teachers, and then set up a series of seminars throughout the country.
At the same time, the TUC is stepping up its preparation of a curriculum on curriculum for the Schools Council project, which it sees as the most valuable contribution towards preparing young people for the long term. To guard young people from the will of curriculum trade unionists, the TUC will make a part in running and monitoring work experience schemes.

Reports by Mark Jacek

We are all a bit dyslexic, psychologist says

by Diane Spencer

Educationists must not be divided on the issue of dyslexia, Mr Tom Crabtree, an educational psychologist, told the Remedial Education annual conference in Bath last week. What mattered was to agree on and meet the needs of individual children.
Dyslexia was neither a neurological nor a somatic issue, it was an educational one. "We are all dyslexic to some extent, but dyslexics have more of it and it lasts longer."
"What they need is superb teaching. The label 'dyslexic' pinned to a child can result in the teacher absolving herself of her prime responsibility to pass on reading skills."
"It could be that, nowadays, we teach children badly, and unlike doctors, who bury their mistakes, we simply call badly taught children dyslexic."
"We have not emphasized the importance of teaching reading daily in infant schools, and we have neglected to teach teachers how to teach reading."
"While they have been gaily pursuing projects with paper mache, teachers have been unaware that a child who does not learn to read by the age of eight, may well be at risk of failure throughout his school career."
"We should be concerned with enhancing the quality of remedial teaching and not be afraid of formal teaching or of repetition and drill."
The Department of Education and Science, he said, would soon be faced in deciding on a policy for dyslexics. A powerful lobby was building up on their behalf.
Local authorities did not have the resources to give children the individual attention at special schools could give them. They were boarding schools, which have special units for dyslexics. Ultimately, the answer lay in the quality of teaching. This would mean more in-service training.
A call for better foreign language teaching was made by the new president of the association, Mr Ted Rowe. Language teaching in secondary schools had low prestige and its approach was far too academic, he said. Teaching should begin



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Boost for primary footballers

by Stanley Levenson

Twenty-four primary schoolboys will have the rare thrill of playing football on Wembley's famous green turf next June—the culmination of a six-week tournament launched last week by the English Schools' Football Association with a three year sponsorship of £20,000 from the Smiths Food Group.

The four teams which reach the finals through a pyramid of competitive matches will walk away from Wembley with a new strip for each of the boys provided by Smiths, plus medals for the two finalists and a cup for the winners.

Alan Child, chairman of the association and head of Selwyn Junior School, Highgate Park, London, estimates that there could be as many as 100,000 nine to 11-year-olds eager to have the chance of getting to Wembley.

This is the dream of every footballer, however young or old, said John Hollins, of Queen's Park Rangers, who has himself played there. Mr Hollins also praised teachers who did so much for school football. They give from the heart, he said, and not the pocket, although many are out of pocket through their extra-curricular work.

Mr Child, in giving details of the new venture, emphasized that the schools association was concerned with the whole wellbeing of boys, moral, educational and physical, in which football played a part. Fun and sportsmanship were key objectives.

Competitive football is much more than a drive for points and



For the winners: The trophy is held by John Hollins and Alan Child.

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Stars of tennis world



Cheque mates: Peter Hannon and Jane Gasser.

Peter Hannon, the Irish champion from Dundalk, and Jane Gasser, of Edinburgh, near full, won the Scottish schools international tennis

finals at Queen's Club, London, and were rewarded for their efforts with £100 cheques to help cover their tennis training expenses.

Hannon beat Geraldine John (Haverfordwest) 6-1, 6-2 in the semi-final and then beat Richard Smith (Boston) 6-3, 6-2.

Smith, 18, reached the final first by beating Roderick Coull (Westcliff High School, Essex) three and a half years his junior, 6-1, 6-1 in the English final played immediately beforehand. Then, in the

international section, he defeated Scottish champion Murray Carnie, 6-2, 6-1.

Miss Gasser took the girls' prize with a 6-2 success against Daphne Boothman (St George's School, Edinburgh) after disposing of Welsh rival Jane Hamner (Llanilud Pwll School, Cardiff), 6-0, 6-3.

Miss Boothman had earlier defeated Laura Roche (Mount Anville Convent, Dublin) 6-4, 7-5.

Like Smith, Miss Gasser came straight from the Nestlé English final where she had beaten Tina Sawyer (Loughran High School, Essex), 6-1, 6-4.

Young adults 'in danger'

The importance of regular exercise by young people was emphasized last week when the Sports Council launched its "All Come Alive" campaign. The medical-scientific findings of this campaign, the research Professor Peter Fentem and Joan Hasey, of the University of Nottingham Medical School, exercise and health.

Their "Case for Exercise" was published last week. It is suspected that adolescents and young adults are in danger of becoming a sedentary society, of becoming so sedentary that their capacity for physical activity declines to very low levels. Moreover, they are likely to come obese.

"Parents and schools have an important role to play in fostering positive attitudes to exercise in young people and not merely sporting elite in the hope that lifestyles which are established early will last into maturity and old age."

Chief education officers and physical education advisers get the "All Come Alive" message and publicity material which contains jogging, swimming, cycling and other suggestions.

At the same time Dr Dick Dwyer, chairman of the Sports Council, called on the Government to put more money into the provision of sports facilities and to make big savings in the Health Service bill.

Shaping the ideas and actions of the young

Teachers, coaches and athletes—and political debaters—will find much valuable and stimulating material in a book from East Germany which is now available in an English version for the first time.

Most of the volume is devoted to detailed advice on athletic techniques based on the experiences accumulated over a decade by East Germany's sports scientists and doctors, coaches and athletes, whose performances have gained so many honours at international level.

The detail is such that there are special sections on women athletes dealing with menstruation, contraception, pregnancy and abortion.

What will provide distinction, however, is a work of reference that makes two things clear. One is that athletics is part of the education

process of producing healthy individuals and shaping such qualities as courage, resoluteness, willpower, perseverance, self-discipline, fairness, team spirit.

The second is that "in the German Democratic Republic track and field athletics are an instrument of socialist education." Further on the ideological foundation of education and instruction in training.

There is more along these lines and whether or not it is acceptable depends on the individual's outlook. In our more familiar Western world, sport has always been part of an "indoctrination" process, a routine more subtle one, Pierre de Coubertin, the Frenchman, said.

Dr Thomas and Matthew Arnold, the Englishmen, said, "all saw sport as a means of shaping the

ideas and actions of the young."

The objects of the East German Schools' Athletic Association, the advancement of the physical, welfare and the development of school pupils through the medium of athletics.

The English Schools' Athletic Association have almost identical aims.

These reflect the values of British society, the hope that the German socialist system will be able to ignore and

United States

Controversial report criticizes federal literacy programmes

Clive Cookson

WASHINGTON
United States government is studied (whose funding ranged from \$10,000 to hundreds of thousands of dollars) did include some success stories, but there was no consistent relationship between success and the type or level of federal support.

The guidelines and management strategies of the federal change agent programmes were simply overshadowed by local characteristics," Rand found.

The key finding—that the effects of federal intervention are swamped by local differences between school systems—has come out of other American studies too. For example, the gargantuan eight-year, \$30m evaluation of the Follow Through programme, released last year (TES December 9), was almost useless because of the tremendous local variations: all of the different educational approaches used succeeded at some schools and failed at others, and few useful conclusions could be drawn about their overall effectiveness.

The way school districts used the grants is described as "spotty". Many projects were "opportunistic": they were started "simply for the purpose of receiving federal largesse" without any real intention of dealing with local problems, they were poorly implemented and they disappeared as soon as the last cheque from Washington had been cashed.

But the Rand Corporation does not want to give the impression that "federal money doesn't matter" or to argue for less government spending on education. Rather, it hopes to change Washington's approach to education projects.

Federal policy has until now been based largely on a misguided "research and development point of view," according to Rand. School

districts are regarded as "black boxes" into which federal inputs are fed and out of which a desired educational "output" is expected.

Instead, the report urges Washington to concentrate on local factors. Federal officials should adopt a much more flexible attitude, adapting programmes to suit local conditions. The Office of Education should devote less money to promoting specific projects and more to helping school districts develop an institutional capacity to respond to change as a whole.

Dr Paul Berman, the Rand Corporation's senior social scientist and leader of the study team, pointed out that the project differed fundamentally from previous evaluations of American social programmes. These have been based on an experimental paradigm: they apply a "treatment" (an educational programme) to a set of schools and measure its outcome in terms of, say, test scores. By comparison with a "control group" of schools that do not receive the treatment, its effectiveness is calculated.

This approach is of course valid in medicine for conducting clinical trials of a new drug, but Dr Berman argues, it does not work for educational research, because "the model mutates"—a specific educational programme applied in several schools will be implemented so differently in each one that a straight forward comparison of results is pointless.

He says the Rand Corporation looked instead at the nature of the treatment and tried to isolate the factors that made for success or failure in individual cases and as a whole. As a result there is not one numerical conclusion in the Rand report.

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France

Minister bent on wooing primary school union

from Our Correspondent

PARIS
A further step in opening discussions between the Minister of Education, M Christian Beullac, and the left-wing teacher unions was taken at a Republican party seminar in Nice.

M Beullac once again stressed the importance of teacher education as the key to the success of the French middle school. More particularly, the minister seems bent on wooing the Communist-dominated primary school teachers' union, the *Syndicat National des Instituteurs*.

Since the war, the numbers passing through the education system have been growing. This year, however, they have dropped for the first time. The drop though small—in the region of 0.03 per cent in a population of 11,000,000—is nevertheless a sign of things to come.

Between 1972 and 1974 the birth rate fell dramatically and over the next decade the falling birth rate is bound to have massive repercussions on education.

Last year the number of pupils entering pre-school began to slow up. This year's statistics confirm the trend: 40,700 fewer pupils entered pre-school groups compared to 1977.

To some extent, this development has been disguised by the massive expansion in pre-school education regarded as a priority by successive Ministers of Education. Currently, around 85 per cent of five-year-olds are in pre-school classes. The drop in the birth rate will hit primary schools in 1979-80, work its way through to secondary education by 1984-85 and affect higher education around 1990.

Most teachers' unions regard this as a heaven-sent opportunity to bring about qualitative improvements in education, better staff: pupil ratio, being the principal area.

The counsellors' unions called the strike in protest at M Beullac's suspension of talks on working conditions.

This sports teachers staged a one-day strike to protest at the terms of plans announced by M Jean-Pierre Soisson, Minister for Youth, Sports, and Leisure, to "re-launch" physical education in secondary schools.

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Australia Employers unhappy with state test

from John Kirkaldy

SYDNEY
A survey conducted by Sydney's Trinity Grammar Schools shows that 88 per cent of employers questioned are dissatisfied with the state's school certificate exam.

The exam, which is usually taken at 14 or 15, is one of Australia's most controversial. Apart from maths and English, the entire exam is based on internal assessment.

Seen by many "progressives" as a move away from the exam rat race, it has been attacked by others as confusing and setting no real yardstick of ability. In the coming state election on October 7, the exam will be a contentious issue as the opposition Liberal and Country parties have pledged to abolish it if elected and return to a system of external assessment.

At present, the student receives only a certificate which does not show "pass" or "fail" but that the student has "satisfactorily studied" a particular subject. Maths and English are graded on a state basis from one to five. (Students staying at school till 18 take the higher school certificate which is a competitive exam.)

Other findings in the survey were that 89 per cent of employers felt that the general standard of numeracy and literacy had fallen in recent years; 5.5 per cent thought they had risen and an equal number thought that there had been no change.

Only 54 per cent of the companies concerned said that they would be employing school leavers this year. Of this figure, 70 per cent said the school certificate was the most important document they looked at when examining an applicant.

And of the same group, 37 per cent said a school certificate based

on teachers' assessments rather than external exams had made the selection of young job seekers appreciably more difficult.

Employers generally criticized schools for not training students for the work force—90 per cent believed that school leavers were not adequately prepared; forty-six per cent of firms concerned felt that teachers were to blame for current problems in education.

The future of the school certificate exam will be keenly watched by other states. (In Australia the control of exams is a state responsibility, not a federal matter.)

The survey undertaken by Trinity's principal, Mr. Roderick West, surveyed 100 leading Sydney companies, including banks, mining and insurance groups and several industrial firms. Mr. West said the survey's emphasis most commonly used by the employers in describing the school certificate were "inadequate", "useless" and "confusing".

Employers wanted a return to external examination at the end of Year Ten (fourth form) and students to be equipped with a set body of knowledge.

The present NSW Labour government has said that it will keep the present system until 1980 by which time it will have conducted a complete review of assessment in the state. Submissions from the public have been requested by October. It is expected that if the Labour government is returned there may be some changes to the exam but not a full return to external assessment.

Mr. West said employers found it very difficult to gauge at all accurately what years of secondary education had done for their applicants. "They are confused with the actual piece of paper means", he said.

One of the major problems in the debate will be the collection of data for comparison: Trinity intended sending the findings of their survey to the Department of Education. In the meantime, they have introduced their own certificate to help employers assess job applicants—several other Sydney secondary schools are reported to be considering similar moves.

Teachers' unions have generally supported the present system as giving more flexibility and giving students a better preparation for life in general. Parents and citizens groups have been much divided on the issue. Mrs. Totti Cohen, president of the Federation of Parents and Citizens Association of NSW, said that her organization supported the idea of a thorough investigation before any decision was made.

The figures announced by Trinity are, therefore, likely to be only the opening shots in a heated dispute.

Denmark Trade school package

This autumn the first of a total of 116 teacher trainees from Algeria will arrive in Denmark to begin a special one-year course in trades instruction in electronics and electrical engineering as part of a unique education and construction package.

The project, involving close co-operation between the Danish Technological Institute and a leading civil engineering company, comprises a complete trade school with buildings, equipment, curriculum, planning and staff training. The construction company is responsible for the building side of the project and the technological institute will take care of the rest.

The project team in Copenhagen will be composed largely of French-speaking Danes working on two teaching programmes: for Algerians coming to Denmark, and for on-site teaching at the school in Algeria.

The basic concept of the project is to eliminate the usual time-lag between completion of a new school, the stage of institute and training in Denmark, and the start of the school in Algeria. The project will also support the operations of the school for the first two years after the school opens.

Lucy Hodges reports on Nigeria's ambitious primary education plan Legacy of oil on troubled waters

Nigeria's plan to get all 10-year-olds into primary school by 1980 is one of the most ambitious schemes undertaken by any country.

The country's population—no one knows how big it is—is growing rapidly. The 1976 census estimated that there were 2.3 million Nigerians (in fact 3 million), which means that by the year 2000 there should be 15 million primary school children in the country.

The logistics of providing for this number are formidable. At least because of a severe shortage of teachers (let alone training) and cash for teacher training, and shortages of buildings and equipment, and shortages of cash.

The programme was initially by the federal government. In 1974 and the following years, it was left to the local government councils, which administer the schools, in very real difficulties. Some have been helped by charging about N9 per child per term, but this was understandably failed and the original plan for UPE have had to be totally cut back.

The difficulties mentioned against the law for local government to do this and there were reports that long state had it impossible to say to the student UPE has been successful. As Mr. Peter Williams, Hugh Hawes, of London's Education, said in a letter to articles in West Africa, the lesson of history is that the most obvious and the one which is likely to be palatable—is that the programme cannot possibly be successful if what is attempted is to give to all young Nigerians within say 10 years a standard of education which is the same as the objectives of the system.

The fact has to be that the average quality of educational institutions where desks, premises and teachers are a fraction of what is needed, and the culture and shortage of teachers' qualifications is a decline in the short-term term from its already low level.

UPE schemes introduced in the 1950s and 1960s in the eastern and western regions of the country published last year, failed. So far the Nigerian six-year-olds cannot enter the scheme.

The majority of teachers have no teaching qualification and this problem rises to as high as 90 per cent in Kano state, for example. To make matters worse many of the teachers came into colleges for UPE effort failed to qualify as teachers.

Even if they do get their certification, primary teachers cannot look forward to a generous reward. The salary is N1,476 which rises to N1,908 after seven years. Un-

In some of the northern states the picture is different. The cattle nomadic group—have rejected the idea of compulsory primary education for their children, seeing it as a threat to their culture and life. There have been reports of one local government in Borno state of parents making another where officials were conscientious about enforcing the law.

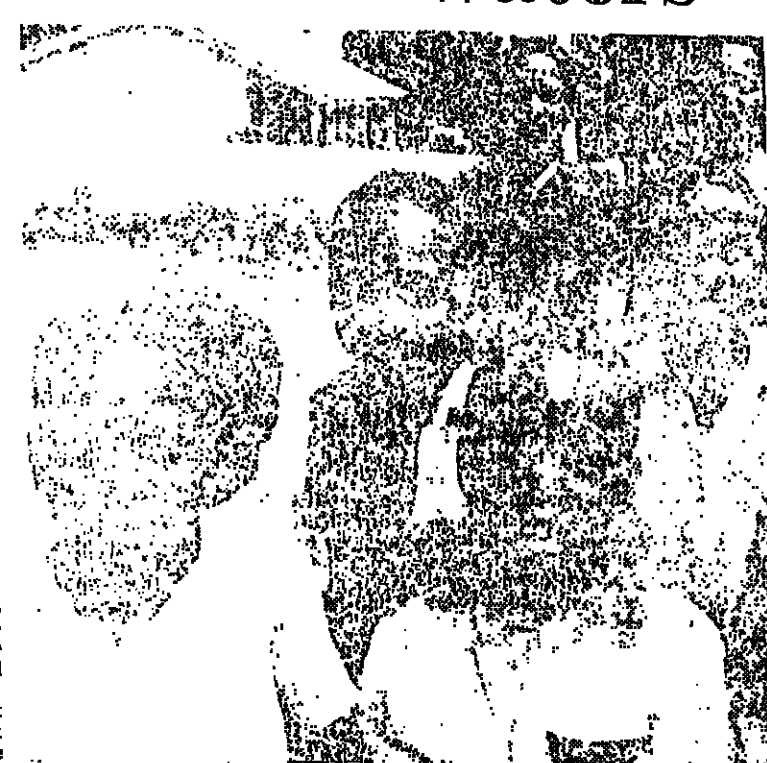
One of Nigeria's main problems, the Daily Times, reported this year that local officials follow this up with legal action against the parents.

There have been reports of clashes between herders and officials, including a policeman out to try and persuade parents.

South Africa
Urgent plea for new schools system from Louis Hofz

The South African government is facing urgent pleas for an integrated system of national education.

At a wide-ranging conference in Grahamstown, the former director of the Department of Education, Mr. H. Hofz, called for a new system of national education which would incorporate the best of the black and white educational systems and be based on the principles of non-racialism.



Primary children at a government school in Jos, Plateau State.

qualified staff get less than the starting rate. The result is widespread discontent, especially as the teachers are no longer offered the cur loans and other allowances given to say, university lecturers.

One of the big questions hanging over the programme is what to do with the millions of newly educated young people who have come through UPE.

Initially, a sub-committee of the National Policy Commission on Education is considering what to do with school-leavers.

The overriding aim of UPE was to use the oil money to remove the worst educational inequalities in a country already riddled with divisions. The wide disparities in educational levels between the Hausa and the Ibo are seen as serious contributory factors to the Civil War, and ones that must be removed.

It remains to be seen whether UPE succeeds in getting northwesterners into school in the same number as southerners and whether it succeeds in avoiding other problems along the way.

The National Policy on Education says the following curriculum is prescribed for primary schools: the inculcation of literacy and numeracy, the study of science, the study of the social norms and values of the local community and of the country as a whole through

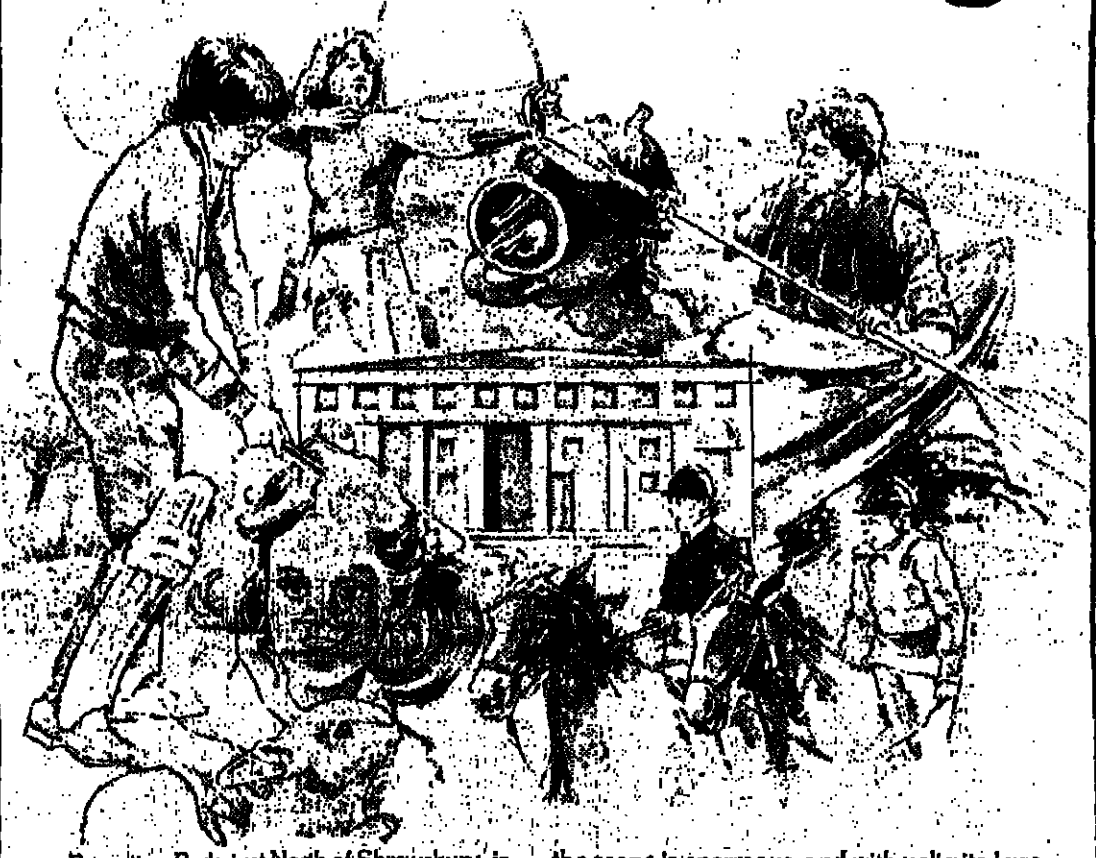


An informal non-UPE school. Note the teacher's whip.

Bureau of Racial Affairs (Sabra) in Durban. Addressing the youth wing of the organization, Professor C. P. Beyers, head of the faculty of philosophy at the University of Zululand, appealed for the establishment of a unified Department of National Education with a single minister.

It would do away with existing geographical and racial barriers to the development of a truly national and co-ordinated educational system while allowing for local conditions and traditional relationships and outlooks. He described the present system as "chaotic".

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Further particulars and application forms may be obtained from the Principal's Secretary, Dunfermline College, Cranmore Road, Dunfermline, Fife, DD1 1QJ.

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Further particulars and application forms may be obtained from the Administrative Officer, Further Professional Studies Division, School of Education, University of Newcastle upon Tyne, St. Thomas Street, Newcastle upon Tyne, NE1 7RU.

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Time for a change?

Mr Newell recently took a look

how Denmark encourages

experimental schools. Overleaf

reports on the pioneering

Wind Schools and on one of the

Danish "little" schools; on this

page he suggests that in Britain

there should be a new form of

direct grant which allows and

encourages local groups to set

up their own schools



Children at the now defunct Free School in Liverpool. Should the state support such alternative experiments? Peter Boyle

Someone who feels depressed at the slow pace of educational reform should cheer himself up with a visit to Denmark.

It is refreshing to find not only a state sector committed by legislation to pupil and parent partnership and participation with teachers in the schools—symbolized by a pupils' union with a central governing grant and 300,000 members—but also a state-supported alternative sector, in which local innovations and initiatives can develop with minimum interference. (Yes, they do check the books, but each group may appoint its inspector someone who is in ideological agreement with them.)

Above all, it is refreshing to find an atmosphere which welcomes experiment in local initiatives, seeing them not as a threat to state control or professional monopoly, but as an inevitable and entirely welcome development of education in a democracy.

While it is exciting to see what Britain (and undoubtedly would) develop if groups of pupils, parents, teachers, and others dissatisfied with existing state school structures, could get hands on state funding, it would be a pity to simply impose the same legal and financial framework on a very different social system, and hope for the same liberating results.

Denmark is a much more homogeneous society than Britain. The more pronounced class and selective nature of our education system, and the dominance of a small but influential independent sector, would undoubtedly gobble up the 85 per cent support available, with minimal contribution to any group of Danes with 12 or more children who want to "do their own thing".

But this would simply reinforce the nature of our divided system, reduce a significant state-supported element into the broadly based comprehensive system, and reduce the potentially crumbling fortunes of the traditional independent sector.

For those who have fought hardest for the comprehensive reform (and I am not fighting with this "new" education to put off further reform) would

see this sort of state support for local initiatives, as they have seen versions of the voucher idea, as a heaven-sent opportunity to delay or dilute still further the non-selective principle.

It is certainly not the purpose of my argument to try to do any of those things (although even if they read to the end, some of the more traditional and defensive members of the comprehensive lobby will not believe me). Why should one want to encourage a new alternative sector of education, state supported but largely internally controlled by the people using and working in the new institutions? Isn't there enough experiment around as it is, what with the Schools Council, new examinations, curriculum development, community schools, and so on?

All these reforms operate within a rigid and hardly changing structure. It is this structure, which in no way reflects the aspirations of a developing democracy, which needs the impetus of radically different alternative models working alongside it, to encourage freedom of thought.

Where there are differences, where individual heads with the connivance of sympathetic L.E.A.s have planned and put into practice more far-reaching "reforms", they still tend to remain reforms within narrow boundaries and closely defined structures. Many in mainstream schools believe that no relevant change is possible except within their institutions, and many of them are clearly trying to work towards an openness and flexibility.

Of course, it is true that the existing administrative and legal framework does not encourage state-supported "experiment" within a comprehensive, non-paying structure. It is this right to make relevant, state-supported experiments with different structures which is the Danish tradition. How did it develop? Can it be adapted to meet our different but connected needs?

In Denmark, state support for freedom in education is generally attributed to a nineteenth century poet and liberal clergyman called Grundtvig, a vigorous opponent of compulsory education, especially compulsory religious education. An

early de-schooler, or at least alternative schooler and proponent of life-long or "permanent" education, he described state schools as "schools of death" and "houses of correction".

As well as encouraging the development of a parallel sector allowing the practice of different religious and philosophical beliefs alongside the state schools, he was the founder of the folk high schools, perhaps the most exported Danish educational institutions—residential adult liberal education colleges, with no examination targets.

Following Grundtvig's rigorous expression of the principle of freedom in education, schools were founded by different groups—Catholic, Jewish, Seventh Day Adventist, schools for the German-speaking ethnic minority; and Grundtvigian schools, where the emphasis was on talking, discussions and singing, with no rote-learning or drill.

This situation, similar in some ways to the development of the "voluntary" sector in Britain, but with much less government control, either local or national, continued until the 1950s, when new radicals argued for a widening of the definition of freedom: a government which supported schools for those with differing religious and nationalistic feelings should also support schools for those who disagreed with the methods or structure of the traditional state schools.

Central acceptance of the logic of this argument has since led to the founding, most often by initially very small groups of parents and teachers, of about 40 "little" (little) schools. Most would acknowledge Dewey and Neil as contributing to their ideology, but (as with the brief rash of urban "free" schools in Britain in the early 1970s), the concept of freedom has developed most recently within general principles of cooperative socialism, with no traditional hierarchy (although Danish little schools are compelled to have a leader, at least on paper), democratic meetings, links with local communities and unions, etc.

The most common model for a little school was described by one teacher as a "middle-class, middle-left, teachers' school": it is no coincidence that by far the largest group of little school parents are state school teachers; another sizeable group are in higher education, as teachers or students. There are now

Marxist schools, and a Proletarian Free School, operating with Soviet ideology only on Saturdays and Sundays, with lots of red songs and lessons in urban guerrilla skills.

Most recently, the right-wing authoritarian movement in Europe (which has so far left Scandinavia relatively unscathed) has led to the development of a few of what are termed by the little school people "black schools"—back to rote-learning, rigidly imposed discipline, uniform, little or no sex education. A teacher at the Koga Little School suggested: "If too many of these black schools develop as the right-wing movement moves up from Germany, some of us may well be asking whether our freedom to experiment is worth it."

Politically, the idea of state support with minimal state control has allies in all parties and factions. The principle has never seriously been threatened, although, as the Danes' incredibly high standard of living began to be threatened by economic problems, administrators have been looking at comparative costs in the conventional and alternative sectors.

In a recent report on *The Financing of Private Schools in Denmark*, Lauge Dahlgaard, Chief of the Ministry of Education's economic and statistical division in Copenhagen, wrote: "We feel that one of the prime tasks of the Government is to ensure intellectual freedom, and one way of doing this is to give private initiative and activities the possibility of blossoming in all cultural areas, and in such a way that large groups of the population are not denied these benefits of a free society for economic reasons."

The report shows that the operational cost per pupil to the state in the "alternative" sector for the same age groups averages out at quite a bit less than that in the state schools, although the report suggests that additional income from fees and other private sources make the "private" schools in practice more expensive.

Debate centres on how to ensure that the private sector does not take more than its fair share of "teacher-hours", and on the economy of very small schools. Continued on next page

دولت علیہ

TALKBACK

Inbuilt prejudice?

I worked in a multi-racial school in Birmingham for the past four years. It has a population of 325, of whom 70 per cent are of Asian and West Indian descent. I have also visited several other multi-racial schools in the city.

I have noticed a disturbing trend towards racism among a high proportion of staff at these schools. Despite increasing efforts from organizations concerned with the promotion of racial harmony within the community, the trend continues. The pressure exerted by such organizations has caused a polarization among staff. On one side are those concerned with the promotion of racial harmony, on the other those who wish to teach in the manner in which they have done for the past 10 to 20 years.

The attitude of this second group caused considerable problems in the school in which I worked. Most staff appeared on the surface to be enlightened about the problems en-

countered by ethnic minorities. But racism was a problem.

Among the staff are two teachers from India and one from the West Indies. They hardly ever go into the staffroom. This is hardly surprising, in view of the racial feelings often expressed there.

There appears to be an inbuilt prejudice among the staff, and no amount of persuasion can overcome it. The majority of the teachers were from middle-class backgrounds and have never worked outside teaching. Because of this, they have little sympathy with working-class attitudes of any race.

The school is regarded as the property of the staff, and not the community in which it is situated. The children and their parents are expected to conform to the standards which the teachers adopt. No allowance is made for any deviation. Children either conform to the teachers' attitudes, or are condemned as "thick".

The school exists for the sake of the staff. Parents are discouraged from coming inside; I have even heard one member of staff say to an Asian parent: "Who do you think you are to walk in here?"

Most of the staff have been at the school at least four years. This has hardened their attitudes towards Asian children, as the proportion has risen steadily. When changes are suggested, the response is frequently: "Why should we change?" or "I'm not altering for the sake of them."

At a recent staff meeting to discuss the allocation of teachers in the streamed English scheme (at which only a few members of staff were present) it was decided to allocate the weaker staff to teach the lower ability groups. This meant the poorer staff would teach



West Indian children are still on the receiving end of teacher prejudice in many schools.

the non-English-speaking children.

I have seen racism practised by every member of staff. The Asian teachers regard the West Indians as stupid, and the West Indian teacher shows a marked inclination towards the white and West Indian children. When parts are given out in plays and jobs of minor responsibility handed out, it is nearly always one of the white children who receives the favours.

Perhaps the most glaring example of racial bias is seen in connection with the peripatetic teacher of language, who comes in four-and-a-half days a week to teach the 70 non-English-speaking children.

For the whole of last year the teacher was not allocated a room. A suitable one was available but it was deemed more important to store a few musical instruments in it. The room was also used one day a week for the teaching of the

violin to six white children.

Non-English-speaking children are also banned from attending the remedial teaching withdrawal group, as the teacher who takes these groups refuses to teach them. Her excuse is that they cannot be tested to go on to the remedial scheme if they cannot speak English.

The children so excluded have then to stay in a class of 30 children, while her efforts are expended on groups of between six and 10 children. "If children can't speak English how can they be remedial?"

The polarization of the staff has led to a complete breakdown of communication within the school, and between the school and the parents. No attempt is made to teach about anything regarded as slightly controversial.

The breakdown of communication led to revolt by some of the parents. They thought, quite wrongly, that their children were all being

taught in an Asian language, and made things easier for the staff.

Some staff have made attempts at teaching in a multi-cultural manner. I have even heard a teacher trying to teach by rote the difference between life in England and life in Africa. Chanting was heard coming out of his classroom: "The difference between Africans and Scots is that Africans live in huts and Britons live in houses".

The National Association for Multicultural Education is attempting to overcome the inherent racism in British schools. But only a small minority of teachers, both those who do are ready to accept a policy of creating racial harmony.

Teachers of English as a second language are pressing for an appointment of inspectors to responsibility for multicultural education. Perhaps this may force the hand of racist teachers.

The author now teaches in a northern authority.

Lack of cooperation

Anne Dixon

A job creation programme devised by Lytham St Anne's College of Further Education and sponsored by Lancashire County Council has found results that will be of interest to all teachers and administrators concerned with pre-school and secondary school pupils.

The terms of reference required the job creation team to set up and execute a research study of the best preparation for school of under-16s and the recreational and informal educational needs of 14 to 19-year-olds in the area of Fylde District

Council. A third part of the programme considered the leisure needs of retired people in the area.

The team consisted of a project supervisor, clerical assistant and seven project workers, all newly qualified but unemployed teachers from a variety of disciplines. The study lasted nine months, during which several extensive surveys were undertaken.

In the case of pre-school children, a sample of parents, playgroup supervisors and primary school teachers were asked for their views. In addition, all secondary schools in the required age group were asked to fill in questionnaires, distributed with the help of the local education office and the schools themselves.

The results of the surveys, together with information gained from other sources, were compiled into a 250-page final report.

Several findings are of general interest. The most striking is the

generally low level of cooperation between playgroups and primary schools. The study found that neither side had a good understanding of the aims and expectations of the other.

Playgroups, for example, lay great stress on the conceptual development of the child—his or her ability to recognize size, colour, shape, etc.—which receives scant recognition from primary schools. Instead, primary schools assume that playgroups are fulfilling a more mechanical role, such as teaching children to button their own clothes or hold a pencil.

On the other hand, some playgroups seem not fully to recognize the difficulties of a reception class teacher faced with 30 children in a small classroom, many of whom are used to virtual freedom of movement in a large hall. The study report recommends closer liaison between the various agencies concerned with the young child, to ensure greater uniformity

of methods.

The larger part of the study of 14 to 19-year-olds was concerned with opportunities for constructive use of leisure time outside school. One result, however, suggests that the influence of the school on leisure interests at that age is significant.

Of the secondary schools included in the survey, two actively encourage participation in an extra-curricular activity and provide necessary leadership and resources. It was noticeable that pupils at these schools claimed a far wider and more unusual range of hobbies and interests than pupils at other schools in the area.

The results quoted here are based on an intensive survey of what is a specialized sample in national terms. Some of the points to emerge, however, seem worthy of further investigation.

This view is echoed in the introduction to the Duke of Edinburgh's

Award Scheme, which says the young people may have to be helped and encouraged to make varied and purposeful use of the leisure time. Schools would need to be ideally placed to provide this support.

It seems that several young people would be prepared to do their schools take a more active part in their leisure activities. A small but significant number of respondents wanted their schools to provide youth clubs and discuss their own premises, and make school facilities more widely available during the school holidays.

The results quoted here are based on an intensive survey of what is a specialized sample in national terms. Some of the points to emerge, however, seem worthy of further investigation.

Anne Dixon was supervisor of the project.

On the record

J. F. Hanley

The Helston School Diploma and File of Personal Achievements was designed to meet the requirements of that section of the school population previously deemed non-examinable. It seeks not only to assess pupils, but to record their achievements and also leave room for further awards and examples of work which they may acquire in the future.

Little seems to have been done to provide an assessment or record for each child who leaves school at 16. Whitfield has produced the excellent "Record of Personal Achievement" which seeks to motivate the individual to build up a dossier of his or her achievements without attempting any form of

assessment. Subjective assessments are provided in the majority of schools as a leaving report, which is usually held on file as a basis for future assessment.

Certainly, external examinations provide a recognized yardstick, although anomalies exist and assessments are entirely academic. But assessment needs to be of a wider nature, and performance in written examinations considered as a part of the whole picture, not necessarily as an end in itself.

We provide, through a carefully structured course, the opportunity for our pupils to have certain aspects of their personality observed and recorded on, in the hope that they will be encouraged to develop those qualities which are considered important by society. It is this process of continuous assessment that forms the basis of our diploma course.

The diploma file contains each child's personal details—name, date of birth, height, weight, photograph, family details, address. Then comes their academic and school record, which includes attendance, progress, and so on.

Assessments are on the following: reading comprehension, written presentation, spelling, punctuation, written fluency, number manipulation—whole numbers, decimals, fractions, percentages—clarity of speech and conversational ability. These assessments are based on their performance in the basic literacy and numeracy course they follow, which is objectively tested (Richmond basic skills tests).

The Personal Assessment is on a five-point scale, and covers aspects of the whole person, not just academic and bearing, ability to communicate, punctuality, reliability, courtesy, concern for others, working with others, working alone, etc.

severance, curiosity, initiative, self-confidence and sociability.

These assessments are made in discussion with the pupil, and based on reports from external agencies—playgroup, community service and so on.

Assessments have been discussed and previously assessed as part of the tutorial element of the course. The file also contains printed forms, where achievements in the following areas have been recorded throughout the two-year course and validated by an adult: Individual Projects, Creative Work, Assignments, Helping Others and Sporting Performances.

Other forms record experiences in the following, without validation but with comments from the pupil: Speakers, Television, Books Read, Trips and Visits.

The next few sheets are available for assessment forms from playgroups, work experience, community service and subject reports. The five-point scale is used and a six-

ture of personal assessment and objective assessment is used. "None" is available for additional comments from supervisors or teachers.

As well as the pupil's work there is a space for CSE exam results to be inserted in the file. Finally, there is a section for the head of department, essentially a job reference, and can be sent by itself with an application.

The completed file costs less than £3.70 per pupil, and they are asked to contribute £1.00 to its cost. The design work was all done in the department, and forms are printed on the school's offset litho equipment.

J. F. Hanley is head of Helston School, Cornwall. Further information on the diploma and the operating procedures for the diploma course are available from the author.

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Nursery Education

Headships

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Miscellaneous

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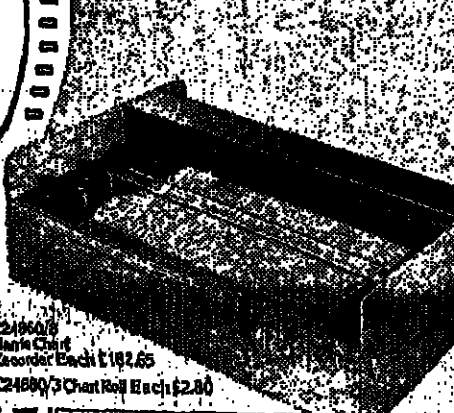
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"A case to be answered" continued

To achieve this it is necessary to ensure that the course notes are factually correct, that the teacher has specimen examination papers so he can see where to put the emphasis, that the text follows the nomenclature recommended by the appropriate professional institution, and, most importantly, that the syllabus is acceptable to the colleges in the neighbourhood.

It is surprising to find that some schools in Yorkshire are being asked to introduce O level SCISP in place of very successful O level courses in the separate sciences, while there are employers who will not, on principle, recruit even those with good O level passes in integrated science.

The problem is widespread and is simply that a boy wanting to study particular aspects of technology is not adequately prepared unless he has CSE or O level physics. Not surprisingly, colleges of technology tend to run courses which are acceptable to industry in the area, when even a good pass in integrated science is not adequate preparation for a course (apprenticeship) in applied science; therefore the unqualified candidate is necessarily rejected.

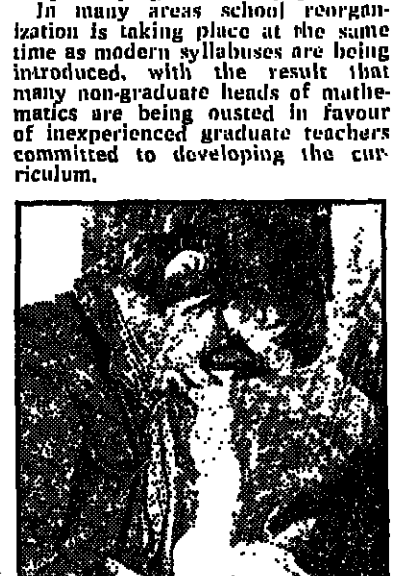
Even at A level there is uncertainty about what is required of a new syllabus. "Electronics systems" was a double A level course under the auspices of Essex University and the National Electronics Council, put on trials by the Schools Council.

In 1976, after two years of the trial, the course notes contained factually incorrect statements, did not follow the professional nomenclature, no specimen exam papers were available and there were definite signs that the course was not acceptable preparation for entry to certain polytechnics and colleges of technology.

It is possible that some pupils may gain from taking electronics systems rather than two recognized A levels, and no doubt there are those who believe that the principles of electronics are usually studied without a knowledge of basic physics and mathematics. But it is difficult to understand why the course was so quickly adopted without assessing exactly how those candidates who did not sit the established A levels would benefit, and the incorrect statement of Ohm's law (page 1, book 1) which was being quoted by students just before the exam, hardly engenders much confidence in the academic content of the remainder of the course. A similar lack of care is too often evident in other new courses.

The school leaver starting a course in applied science will need

to do basic algebra, rearrange formulae and know the limits of applicability of each mathematical method when confronted with problems in an unfamiliar context. Judging from recent examination syllabuses, mathematics is regarded as an intrinsic part of the curriculum, not an optional extra. In many areas school reorganization is taking place at the same time as modern syllabuses are being introduced, with the result that many non-graduate heads of mathematics are being ousted in favour of inexperienced graduate teachers committed to developing the curriculum.



It is hard to assess whether there has been a reduction in school leavers' overall grasp of mathematics, since an arithmetic test is not helpful if they did not spend time doing arithmetic, and measuring the proportion of examination passes does not take account of changes in the examination criteria, and so all one can say is that there has been a shift in emphasis.

In the modern approach to school physics the student is often given a worksheet so he can perform an investigation and collect data. When the scheme works properly, the class discusses and interprets this data in the hope that general principles will emerge. This is not what the engineer wants; it is not the way physics is taught at university, and even an employer physicist may question whether theories ever emerge logically from a collection of data. In fact principles are not deduced, they are a priori assumptions often derived without any logical chain of ideas, or discovered after tediously investigating many possibilities.

The majority of students want to be told principles, look at the

experiments which support them, and then develop a critical and systematic approach by using the principles to predict what happens in unfamiliar situations, such as quantitative problems from test books.

A considerable number of recent school leavers with good A level results are very dissatisfied with the science they were taught at school, and there is a strong feeling that the modern A level courses, which in some places have been in operation for over a decade, are less satisfactory than the traditional methods. This assertion is based on the remarks of about 300 school leavers in the South East who had each spent at least a year pursuing both modern and traditional physics, roughly half moving in each direction. The survey is one of reticence, but some quantitative appraisal of modern science syllabuses, like an assessment of the mathematics, is one of those small follow-up projects that seem to have been neglected.

Prospects
The DES has finally realized the school science would be improved if a number of mature, qualified and experienced scientists could be persuaded to enter teaching. Such people would counteract the innate tendency of scientists who lack experience of how science and mathematics are used.

Unfortunately, there is an overwhelming impression that this scheme will suffer the same fate as the expensive campaign during the 1960s, encouraging British scientists who had emigrated to return to the United Kingdom. The campaign went on for several years, and it is now on record (1977) that only one scientist actually returned.

A head of science occasionally receives inquiries from engineers and scientists who have seen the scheme working properly, and are interested in teaching, often because they have had experience in instructing younger men during their careers.

Such inquiries usually terminate when it becomes apparent that although the comparable salaries are offered by industry the Civil Service and teaching, after 10 years a graduate would earn considerably less in teaching. The L.E.A.s are usually less generous when assessing how an incoming teacher's salary should be determined. It is years in industry and a man with a family just cannot afford to take such a salary drop. The solution is evident, but unlikely to be implemented.

Dr J. C. Dyer is an applied mathematician and has been head of department in several schools.

exhibitions by publishers and apparatus manufacturers.
The association has a network of 26 sub-committees and working parties which deal with both the wider issues of science education and the practicalities of teaching and the practicalities of science in school. This is one of the factors which places the association in a unique position to study science education. While it does not have large funds for research and development, it does have a network of people who can undertake major development projects funded by outside sources.

As with all such organizations, it is increasingly important to develop a structure within the association so that its activities feel involved in all its activities. The association has 17 regional committees, which organize their own areas for members and who are interested in science education.

These committees maintain close liaison with other organizations within their areas. Many of them have devolved their responsibilities to section committees, which enable members to meet together under the auspices of the association in local groups.

All these committees are invited to participate in the association's annual education conference, which provides guidance for the education committees and council of the association in their establishment.

B. G. Atwood is general secretary of the A.S.E., College Lane, Hildesheim, Hants, AL10 9AA.

THE SUTTON CENTRE EXPERIMENT

Could this be the logical pattern for the future of science teaching? asks Mervyn Flecknoe

A five year experiment in science teaching has just produced its first tangible results at the Sutton Centre, in Nottinghamshire. When the centre was set up in 1973 the chance was taken to produce a new science teaching course without the constraints of existing syllabuses or traditions of working. All exams at 16-plus were to be CSE Mode 3, pending the introduction of a common examination.

We wrote to all universities, polytechnics, colleges of education and major national employers and received considerable support for the CSE Mode 3 only policy. The only reservation came from one or two medical schools who said that candidates would have to be assessed on their merits. Since then we have followed up any reported discrimination against CSE Grade 1 and found it unsubstantial.

The block timetable allowed one compulsory science lesson of 2½ hours each week for each pupil with an optional extra lesson in the fourth and fifth years. The laboratories were open plan. Within these constraints we set to work to decide what was really important about science and how best to teach it.

We decided that method was more important than factual retention. If pupils could be encouraged to take part in genuine scientific problem, we could allow rather less testing of remembered facts. We worked on the assumption based on our own experience that pupils learn as a result of using concepts, not in a very logical fashion, and that facts are learned as a by-product of work as and when necessary.

Most adults have little use for facts learned in science lessons; they use the techniques of discovery and interpretation, and the criteria for truth, frequently in the most common situations. Our assessment technique, therefore, treated science as a creative subject, monitoring

form by term the products of the pupils' practical skills, powers of argument, and achievement by way of discovery.

Existence of a syllabus (especially one as full as most 16-plus science syllabuses) assumes an unchanging body of knowledge and dictates an authoritarian teaching regime. The new teacher must decide what degree of compromise to allow himself.

Does he teach the syllabus to the exclusion of education in science to gain maximum certification for his pupils? Does he teach the syllabus via education and achieve a moderate pass rate? Or does he abandon the syllabus rather more and allow education to take place to the detriment of his pupils' paper qualifications?

Science does not possess an agreed core of information. It consists of methods of describing the universe which change from time to time. A certain knowledge of these descriptions is necessary to anyone hoping to understand scientists, or to research a particular field, and a very basic understanding is needed for fault finding in central heating systems. Only to pass examinations in science is a detailed knowledge required.

By contrast, the important aspects of scientific activity are required by every person hoping to live a full life. These are the ability to hypothesize, to design experimental procedure, to check hypotheses to interpret data, to be suspicious of the facts imparted by the written or spoken word, and to communicate discovery.

These abilities are too often a by-product of "learning science". They should be its central core. The world is changing so fast that certainties which we learned at school are no longer tenable. We cannot define our science teaching in terms of a syllabus to be taught and examined.

A terminal examination seems to be a good way to test competence in a subject but an appalling way



At work in a physics class at The Sutton Centre, Sutton-in-Ashfield, Notts.

to find out anything about young people, except about their ability to pass exams. And this was their primary purpose. A very few young people took exams at the end of their schooling to find whether they were suitable for further examination oriented schooling.

There is even poor correlation between performance in examinations at different levels; the correlation between O and A level and between A level and class of degree is not very high. Now we have all young people taking exams to decide which shall win the competition for

The spirit of inquiry and respect for the discovery processes of

science led a large number of teachers to spend much time and money preparing the Nuffield separate science schemes. Because a terminal exam had to be set they tried to preserve the intangible processes of discovery by experiment, as one might preserve strawberries in jam, and in doing so have created a formal and rigid system.

There is no published syllabus, but pupils must have considered not just certain phenomena, but also certain experiments and thought processes, in order to obtain a reason-

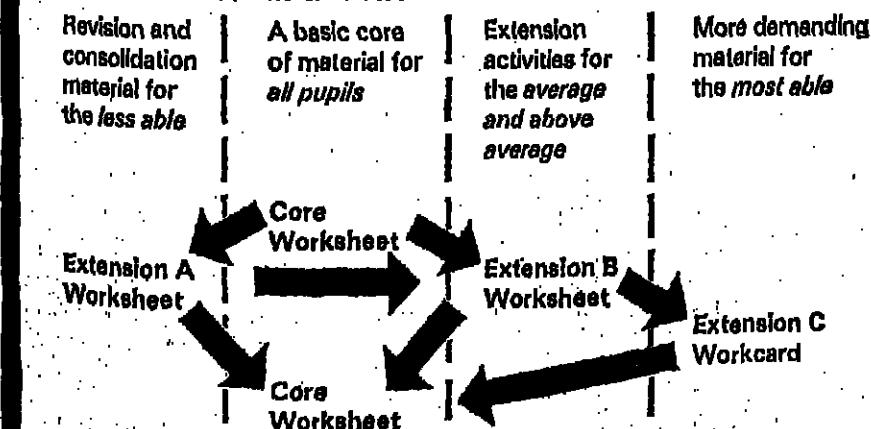
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'The Sutton Centre Experiment' continued from page 46.

able grade in the examination. That so much money should have been spent to provide courses for the most able 20 per cent of the population is a national disgrace. That they continue to be used proudly as evidence of forward thinking science teaching indicates the paucity of our critical faculties, or the limited educational and inside the cage defined by the terminal examination system.

In the setting in which these courses evolved, with the most able pupils in grammar schools, and with the expectation of a slowly changing society, they were certainly an improvement upon existing schemes, or at least a distillation of what was best in them. In a comprehensive system they are surely not good enough.

Much of the energy of a teacher of conventional scientific courses is used in organising his laboratory apparatus so that theft and damage do not occur. He is at pains to make sure that only pupils who can use expensive apparatus.

We argue for more trust, more involvement, more partnership in the process of using scientific techniques to find out about the universe. We have tried this and find that pupils not only have amazing powers of concentration and ability, but also that they exceed expectations in the care of apparatus and the ability to handle safely and carefully even totally novel equipment.

Once teachers are liberated from the responsibility of always being right and knowing the answer, from being guardians of a received body of knowledge, and once pupils can do better than know what their teachers know, and so can get genuine satisfaction from their lessons, we achieve cooperation in an enterprise of learning in which the teacher is an equal partner who is really quite useful.

The situation has severe consequences. The teacher loses his restrictive dignity and acquires status in the eyes of the pupils, discipline problems are largely removed, 2-hour teaching sessions are no longer always long enough for the pupil (although they are for the staff unless they are able to join in with the excitement).

In five years no child has had to be taken to hospital, the open plan laboratories are in an excellent state of decorative repair, and both pupils and teachers work hard because they like it. We think that to take people in trust, pupils and teachers, is a vital element in the process of getting the best out of them.

The Sutton Centre policy is to involve all teachers; all have the same workload, all visit the homes of their tutor group, all are involved in curriculum-making. Taking people in trust is the brave step taken by the Sutton Centre and other schools to make the most of pupils, teachers and the community around.

The Mode 1 exam system requires the teacher to define the syllabus pretty closely. He usually does this by teaching to the class, but in an increasing number of cases he works like a thing dematerialised for several years to produce an individual learning scheme in which experiments, conclusions, apparatus are presented to the necessary degree of detail.

The most admired of such schemes require a child's mind to follow exactly, and also, possibly, in addition, to think for itself. The nature of such courses restricts the child's imagination and teaches him that the most profitable course of action lies in following instructions rather than in applying his own mind.

What is the pupil to do? He is asked to do a piece of work after a period of reflection and of planning about how best to do it, assuming responsibility for it himself. No one sets out to build, decorate, or cultivate, without first sitting down to work out a plan.

For such an activity is rarely regarded as work in school laboratories. The pupil is usually requested to get on with his work. This reflection is a necessary part of learning to do a job, and this activity is better than the tedious quality of furious experimentation following a recipe.

More experimentation in less time is regarded as a benefit because a more overcrowded syllabus can be crammed into the two-year course without time for 'why?' or 'to what effect?' The reality is that more syllabus

often means less learning activity, less education.

Once the teacher is freed from the responsibility of cramming a fairly random selection of facts into the child's mind for an exam, he can enable education to take place. Each child is educated by the thinking processes which he generates to solve problems of various sorts set either by the teacher or by himself. The class becomes a collection of groups and individuals who can work at their own pace.

There is no difficulty about accommodating children who cut hardly tend in the fourth year side by side with those already studying for A level. This is demanding on the teacher, but the work is much less stressful and more enjoyable than the conventional teacher's role. In our experience the load is welcomed by the teacher (who in our case teaches for 27 hours a week).

This has consequences for the organisation of schools. Science is yet another subject which is ready



to take pupils in mixed ability tutor groups until the fifth year and so consolidate the advantages of comprehensive education. Instead of children being friendly with one or two others who accompany them in most sets, they have wider friendships across a full range tutor group.

At last we could be breeding a generation of managers and workers who speak the same language. If this sounds like fantasy it has been in process at the Sutton Centre for five years to the delight of hundreds of educational visitors.

In years 1 and 2 the children are taught in mixed ability classes and the class pursues a topic as a whole for one, two or even three 21 hour lessons. The topic is introduced, experiments suggested, and apparatus explained all within the first 20 minutes. Then groups within the class take the topic on more or less in the manner suggested, but becoming more divergent towards the end of the lesson.

The class comes together before the end to discuss and summarize actions and discoveries. Then each child individually commits to paper his doings and thoughts. Group

work; individual recording. The group benefits all its members, the more able must explain and justify, the less able learn from the same process.

The spirit which pervades the Science Centre is that of Nuffield. Pupils are expected to follow the lesson with independence, to work of various sorts depending upon their ability to do so (a nice decision for the teacher).

After a transitional third year, the pupils start a CSE Mode 1 course in integrated science. The course is compulsory, mixed ability, and continuously assessed. Marks are gained after each half term topic for experimental design, experimental competence, understanding, reporting and recording, background study, and perseverance. These marks are totalled at the end of two years for a CSE grade.

In the fourth year the study topics are electricity, movement, metals, plants, metals and metals. There is a wide choice in each half term, including topics covering the TIE level 1 physical science course, which local engineering industry appreciates. In each half term guidance is given about important topics which should be covered, references are given and apparatus is explained. The pupils work individually or in groups as they wish, they examine the suggested topics and decide which they do.

In addition, pupils may choose to spend a second lesson each week in a science for extra CSE certificate. Two courses are available, one for further A level preparation and one based towards physical or biological science for those having design or other apprenticeships or manual occupations.

So much for the theory. What of the results? Pupils at the Sutton Centre are invited to attend evening teaching lessons which last two hours from 6.30 to 8.30 pm each evening. In the last days of winter 10 per cent of the pupils in the centre have voluntarily attended the lesson in science. At least the pupils appear to be interested in the subject of scrutiny by the Majesty's Inspectorate since it was built, but early in 1978 a team of 14 inspectors spent a week there. They were impressed by the learning atmosphere and commented favourably on the science course.

That would have been a good opportunity to build a poor teaching programme. The CSE board awarded its first certificates to the mixed ability intake in 1978. Thirty-eight per cent of the pupils of all abilities who took the compulsory basic science course gained a Grade 1 certificate. Any course which has these descriptions cannot be all bad.

Is this an isolated, successfully concluded experiment, or is it the logical pattern for the future of science teaching? We have the opportunity with the advent of the common examination at 16-plus to improve our techniques of assessment, by entrenched ideas of science teaching to be cleared by transience and inertia; or by it to be dictated by reason, and by the needs of children, employers and society at large?

Mervyn Flecknoc was course director, science, at the Sutton Centre and is now at Stantonbury Campus.

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British Association
Young Scientists

The forging of school-industry links is worth the effort and science teachers have both the opportunity and the responsibility

TAKING THE INITIATIVE

By John Nellist

Where did it all start? Every post, paper and periodical carries news of an attempt to bridge the school and the world of work gap. As with so many issues, this focusing of attention brings a newly fledged idea to the fore, though it is a more casual glance beneath the more established flight feathers. The demand to match more effectively the requirements and realities of contemporary society is certainly not new. Equally surely, very many of the efforts have been made over the years by a range of individuals and agencies to do exactly this.

There can, however, be little doubt that the past two years have seen an unprecedented concentration of attention on the 'industry' aspect of the school-society interface. This attention was potentially sharpened by the Prime Minister's Radio 4 speech and its accompanying great debate and its accompanying documentation, which has been widely honed by a range of local conferences and confrontations.

Meddles trumpeting the shortfall in the performance of schools and/or teachers with regard to the requirements (real or imaginary) of an industrial sector proliferate, and are too familiar to need repetition. None the less, for the science teacher in particular two main strands of the critical weave emerge.

To few of our most able students are attracted to careers in the manufacturing industries. (There may also be something of a shortfall in skilled technician fresh.

There is a general lack of appreciation by the population at large of teachers and young people of the role of industry in our society and especially of

the place and value of the manufacturing sector. No doubt caveats can, and perhaps should, be raised to hedge both these statements. However, both contain more than a germ of truth. An acid test is to plot the fate of your own most able school leavers over the next five years. At 18-plus a reasonable gamble would be that more than a fair proportion of such students were aiming at medical, veterinary or pure science schools or even a course in law.

In the same vein, do you or your pupils know anything of the workings of the small firm down the road or have more than a passing acquaintance with 'the factory' in the locality? (It may be, by the way, that you have studied its detrimental environmental impact in some detail). In short, I would contend that there is a case to be answered. The question is what can or should the science teacher do.

Study tours, resource directories, factory visits, school-industry project weeks, industrial sponsorships, work experience for teachers and school experience for industrialists; UHL, SCIP, PETT, SICCI, SATROS, SLIP etc—the list is if not endless, certainly extensive, and the acronymic roll off the pen if not the tongue. (The Department of Industry publication, *Schools/Industry Collaboration*—some examples of action to promote understanding of manufacturing industry and industrial careers in its current issue, No 51, now runs to 38 pages and, no doubt, will continue to grow). Formal review of such a wealth of effort is clearly not possible but do any basic lessons emerge?

It is progress to be made in involving our pupils' appreciation of, (the Green Paper refers 'property to esteem'), the role and function of manufacturing industry

it is clear that a large proportion of the profession must see value in the change. As in all fields there have always been committed individuals making effective solo efforts. The problem is to inform and, perhaps, even convert and enthuse the



... most people, from board room to shop floor, want to talk and co-operate with teachers.

majority. It is as well, therefore, to look first at the constraints. For many teachers the issue of 'finding time' for new ventures understandably looks large. Short-

age of funds or other supporting resource can also present problems. However, the most commonly voiced reservations centre round existing examination syllabuses. There is surely little point, the argument runs, in attempting to reach material which may be relevant to the local or national industrial scene but which receives sporadic if any coverage in CSE, O or A level papers.

These and similar constraints must also be read within the present teaching climate. Science teachers have in recent years seen a wide range of curriculum development and innovation and understandably look with suspicion at yet another panacea or demand for change.

It is against this background then, which incidentally discounts industry's problems, that strategies for forging school-industry links must be devised. That there are plenty of ideas abroad is not open to question. Money and physical resource is also now much less of a problem. The bulletin of the Schools Information Centre on the Chemical Industry describes school-industry liaison as a 'multi-million pound industry'. It is a vast supportive funds for worthwhile ventures are increasingly available.

The time issue is more difficult, but with goodwill can be tackled. Many teachers have never been slow to give generously of their time in support of worthwhile professional developments, and there are signs that a growing number of I.E.A.s and schools are increasingly prepared to release teachers for school-industry work. A little give and take on both sides works wonders.

At the sharp end of the problem there remains the question of syllabus structure and the related reluctance to take on board yet more change. No doubt, and there are already many strivers, the wind, examination content will change, but what of the present?

Experience within my own and an increasing number of other I.E.A.s suggests that it is possible to give existing syllabuses more of an industrial flavour without abandoning the essential content. This acknowledgement of practical real-

ties also helps to counteract any suggestion that wholesale changes are demanded. The key, now a piece of received wisdom, is the local initiative.

Teachers know their schools, pupils and teaching syllabuses. Given time and resource they can find out about local industry, make contacts, meet people and hence select that information and those experiences pertinent to their own teaching. Such efforts may lead to any or many of the activities listed earlier, factory visits, works experience, curriculum support material, industrialists' visits to school or simply a better feel for the world of work.

The important feature is that the selected outcome will be relevant to the teachers' perception of the problem. This end product may or may not be capable of transfer to others but the actual experience for the individual of working in this way is the vital ingredient. Syllabuses need not be drowned in the flood of industrial bath water, but teaching style and content can be enlivened and given a fresh stimulus, and another useful breach made in the cloister wall.

In essence then it is my belief that the forging of school-industry links is worth the effort and science teachers have both opportunity, through their subject material, and responsibility in this regard. The climate has never been better. In the climate of the industrial revolution, just like any other section of the community, are rightly interested in what happens in our schools.

Further, in my experience, most people, from board room to shop floor, want to talk and co-operate with teachers. We are getting beyond the simple position of standing which so often turned conferences into confrontations. Look then to the yellow pages, find out about your local factories and firms, don't forget the small ones. You may be rebuffed, but you may very well find much of relevance to your present teaching as well as meeting interesting and interested people.

John Nellist is Science Adviser in the borough of Sunderland. His views he expresses as his own and not necessarily those of the I.E.A.

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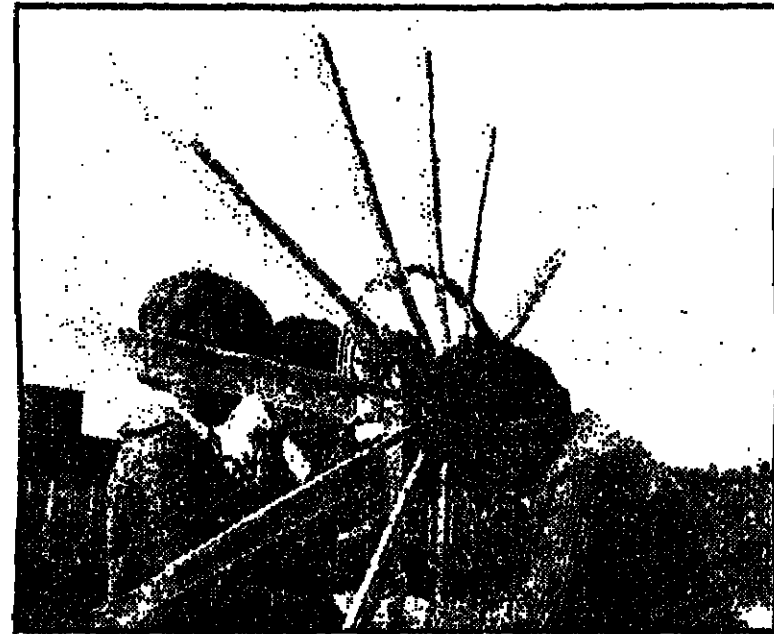
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CATCHING THEM YOUNG

Owen Surridge investigates recent developments in primary science



Making the windmill fit the generator: pupils of Elaine Junior School, Strood, Kent, complete a project

Anxiety about the nation's shortage of scientists, coupled with a lack of interest in things scientific among secondary school children, was bound to set people thinking about changing the underlying attitudes. In an age committed to technological innovation that was inevitable, and the pressure must mount.

So it will come as no surprise that the thrust is now moving strongly towards that cradle of attitudes, the primary school. Catch them young enough, runs the creed, and we can establish the questioning, investigatory attitude for life.

So primary school science, as yet the domain of a few pioneers, may become part of the normal scene there within the decade.

That, certainly, is the intention of the Inner London Education Authority, which is mounting an ambitious "training" programme intended for teachers from all its 145 primary schools during the next six years at a cost of £53,800.

Many primary schools are already teaching some science. Other teachers who would shy away from the notion are doing so, albeit under other headings and without full consciousness of what they are doing.

Mr Alec Sparrow, science adviser to the County of Buckinghamshire, who is carrying out his own campaign to foster primary school science, says: "A lot of teachers tell me 'Oh, I don't know anything about science'. In fact, many of them are already doing it, putting leaves under microscopes or checking out aspects of the environment in scientific style."

The primary teachers of Buckinghamshire are not alone in this and work is by no means always confined to the nature study department. Checking the absorption rates of paper is a fairly common project, as are weathering tests on various paints.

Parties visiting castles get to grips with the mechanics of such things as ballistics and drawbridges. Groups visit old-fashioned churchyards, where local history has not been

tidied away by philistine vicars, produce age charts and other information about earlier generations.

Often, though, the essential scientific attitude is missing. The questions posed ask not "Why?" but "How?" This may be inevitable with the age group concerned. For most of them the applied technological approach is probably the most fitting but it is worth experimenting to see how far seven to 11-year-olds can be stretched to develop and test hypotheses.

Curriculum research in this direction is not new, but it has been hampered by lack of any real scientific content in the training programmes of primary teachers. Their hesitation about tackling the subject is, therefore, understandable, and local authority backsliding programmes will have first to establish confidence on this score if they are to succeed.

The ILPA seems to have this point well in mind. One of the authority's science inspectors, Mr Dennis Marshall, told me: "We will not be teaching them traditional test tube and laboratory science but rather the development of the investigatory attitude—testing, measurement and general observation—in the spirit of the Schools Council's five to 13 science project." He does not doubt that teachers will, at first, be fearful: "But they must learn not to be afraid."

It was some such thought that prompted Mr Arthur Ashton, head of Elaine Junior School at Strood, Kent, to build up an investigatory style of teaching throughout his own school. "Knowledge of science is an essential part of the primary school, where there is time to let children watch."

It assured me this did not mean they could get away with day-dreaming. Projects are expected to yield results, although the youngest may record these in unconventional style, such as the short dramatic episode or art work, rather than

written form. The children learn early that in the matter of observation and recorded fact there is no room for artistic licence. "We insist on accuracy," Mr Ashton told me. "We would not accept a drawing of a ladybird without legs."

Among the projects were investigations of pond life; eyes, optical illusions and the effect of colour; methods of flower pressing; weathering and lichen growth on church walls and a geological survey of local buildings. Results were spelled out with written reports, diagrams, section plots and detailed drawings, all suitably coloured and clearly labelled in professional style.

Naturally Mr Ashton now uses these impressive pieces of work as display pieces, but form a ramble round the classrooms it was clear that they were not just isolated pieces of showmanship. In the hall I found two boys testing the flight efficiency of variously shaped glider wings; one of their tests involved the use of a wind tunnel, which they built with the aid of a teacher.

Another group had devised and built a solar panel for a heating experiment; this, in turn, sparked off work on a solar cooker in another class. The boys had eaten the evidence, but they proudly showed me splashes of burnt sausage fat on the heat reflector as proof of their success.

Elsewhere children were producing an electrically lit test chair of their own design. There were models of land yachts, all of them raced on completion; a bit windmill powering a generator; experiments with hull shapes and water resistance, and a variety of hot air balloon envelopes designed to discover the best mix of air volume to fuel for lift-off and control.

The school has three microscopes, but though they are on display in the hall, their function is not merely decorative. Children learn to handle them in their first year, and in junior school their tutors very often not teachers but youngsters from the fourth year.

Mr Ashton has taken pains to build up a friendly relationship with surrounding secondary schools, from whom he borrows the science apparatus as required. He does not overdo this, however, feeling that it is often better to use unorthodox methods to solve problems. He encourages inter-visiting between staff and he hopes soon to introduce some of his own staff into secondary school laboratories.

He is convinced that young children's abilities to cope with computation and investigation is widely underestimated and he has set out to produce an atmosphere in which the idea of challenging assumptions and checking facts is commonplace. This applies even to books. Children are not allowed to get away with copying of printed opinions; they must make their own checks and some of them have made the invaluable discovery that the authority of print is spurious.

It is assured me this did not mean they could get away with day-dreaming. Projects are expected to yield results, although the youngest may record these in unconventional style, such as the short dramatic episode or art work, rather than



Where the sun soaked the soil—pupil of Elaine Junior School, shows the solar cooker he built with a friend

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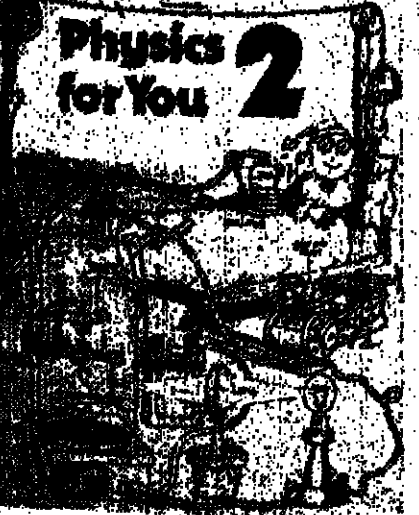
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LEARNING THROUGH SCIENCE

A Schools Council Science 5/13 Dissemination and Pupil Material Project

Introduced by Roy Richards and Margaret Collis

During the past 20 years much thought has been given to ways of extending primary school children's experience to cater for scientific development. This is one of the natural results of a shift in teachers' concern from what they should teach to how children can be helped to learn and to develop understanding.

It also indicates movement away from the treatment of science as a body of knowledge to a realization that children should have a good grasp of the methods by which science proceeds, and of the concepts that are intrinsic to this form of knowledge.

In the late 1950s nature study lessons might well have consisted of reading about plants and animals with little, if any, outdoor exploration and children's interest in physical phenomena was usually neglected. At this time teachers were offered ideas for involving their children in practical investigations, through courses organized for the Ministry of Education and those published by the Association for Science Education, the School Natural Science Society and the Frazer Foundation.

Therefore, when the Nuffield Foundation provided funds for curriculum development in science, there was already interest in using some of these resources for a Junior Science Project. This was established in 1964.

The work which followed, during the next three years, was based on the idea of children's "discovery" that their own ideas and readiness to question is aroused by many different situations, at different times in the course of each day. Therefore, the best people to encourage the children to develop their own class activities, not specialists who could only appear at specific times.

The major need emerging from these findings was for a project, designed to help non-specialists to exploit the children's exploratory drives. Science 5/13, a project involving Nuffield Junior Science, was sponsored by the Schools' Council, the Nuffield Foundation and the Scottish Education Department. To this project, team we owe the most extensive thought concerning objectives that children might achieve through their work in science.

When objectives have been formulated it becomes possible to collect ideas for experiences through which children might achieve them. With the help of many teachers, this has been done and the results published in 26 source books for teachers, together with suggestions for organizing the children's work and much useful background information to make these books and some good commercial publications, now on the market, contain no rigid sequences of work, they provide a wealth of ideas but leave teachers free to select, in accordance with their children's needs. This involves matching suggestions for experience with different children's intellectual development. A third Schools Council project, *Learning Through Science*, based at the University of Reading from 1972-77, has resulted in materials for in-service study designed to help teachers to increase their own expertise in carrying out this process. These have been published under the title *Match and Mismatch*.

Dissemination, or ideas resulting from these three projects has been widespread and the interest of teachers encouraging so, it is reasonable to ask whether enough has been done to help primary teachers. Recent observation and project work have revealed many disappointing situations, and consequently a wide gap between the wealth of ideas and suggestions for providing scientific experience and classroom practice.

From September, 1978, the Schools Council is sponsoring another project, concerned with science for children in the early and middle years—*Learning Through Science*. It will

run for two years and the first concern of its team will be to look for ways of bridging the gap mentioned.

The first clue as to what is required for this purpose has been provided by certain advisers and wardens of teachers' centres who have concentrated on giving school-based help to whole staffs. The promising results achieved indicate the need for further school-based efforts.

Since the content of source books can only be related to all children within the age range specified, there is a need for members of primary school staffs to share the labour of making themselves familiar with what exists in such books and then, to compare in deciding on the use to which it can be put, in their own schools.

In other words, we have reached the stage when further progress will be made in those schools where the staff, as a team, attempt to make a policy for science that they consider most likely to meet the needs of their own children, in conditions provided by their school environment.

A school policy is not a syllabus. It is a plan of campaign devised or amended by the people who will have the responsibility for carrying it out. It must be sufficiently positive to leave teachers in no doubt about what they should be attempting, yet sufficiently flexible to permit plenty of choice and to enable teachers to encourage children to follow-up their own ideas, when these promise to be rewarding.

The success of such a staff effort will depend upon good leadership. The heads' influence will be vital in creating the school climate which enables all members of staff to enjoy working together and to profit from the experience. It follows that future developments in science, or in any other area of the primary school curriculum, are likely to be influenced by the quality of training for leadership offered to heads and senior members of staff, by local education authorities and other institutions.

What help can the *Learning Through Science* project give? By their writing and continuing contribution to in-service education they can help more teachers to understand why a primary school curriculum lacking science, is inadequate and therefore the necessity for constructing and implementing the policy for its development.

As a way of "finding out", science gives young children much practice in making comparisons, testing ideas and considering evidence. This is the type of experience upon which the ability to make sound judgments is based. A significant contribution to the children's language development can also come from scientific experience. Through exploration of their surroundings children can often collect the knowledge they need as a basis for responsible attitudes concerning the state of the environment and wide use of its natural resources.

Members of a project team hear many points of view and have opportunities of observing the results of teachers' actions. This enables them to speak and write about possible strategies for policy-making. Teachers are thus helped to become more aware of issues that they could, with profit, consider and debate in the course of constructing their own guidelines—choice of objectives, suggestions for experience through which children might progress, framework of school organization within which scientific experience can be offered, development of work with class groups, ways of evaluating and recording progress in acquiring scientific attitudes, knowledge, conceptual skills and inquiry skills.

In large schools joint staff meetings would be required to allow all teachers to give their views on these issues, so some preliminary study and discussion might be undertaken by small working parties. The



Lifting heavy and light things

Many requests have come from teachers for the second type of resource—pupil materials that help children either to find good starting points for scientific investigations or to think of ways in which inquiries can be developed when interesting problems have been discovered.

Production of such material is not easy. One can produce cards of directions for children to follow; in fact, there is already enough of this material on the market. Children will carry out such instructions and then wait for further directions, from whoever is doing the thinking.

However, if children are to achieve a scientific approach to problem-solving, materials are needed that will stimulate them to question and then to volunteer ideas for the actions that may provide answers. Whether this can be done most effectively through questions and suggestions on cards,

audio-visual materials or collections of equipment that children can use in different ways, is a matter for research. The project team will be seeking cooperation from many teachers and children in order to deal with this complex part of their work.

This short article is not the place for an argument on the merits or demerits of any teaching method. What is certain is that the level of success of any work with children will depend on the quality and thoroughness of their teachers' preparation. Cooperative work with colleagues on the formulation of a school policy for science, and the assembling of resources for implementation, will enable teachers to become prepared for work with children and to gain the confidence that doing so provides.

Policies for science and resources for practical investigations are not static amenities. They help teachers to bring about developmental changes in the children and consequently require revision at intervals, to keep pace with these children's changing needs.

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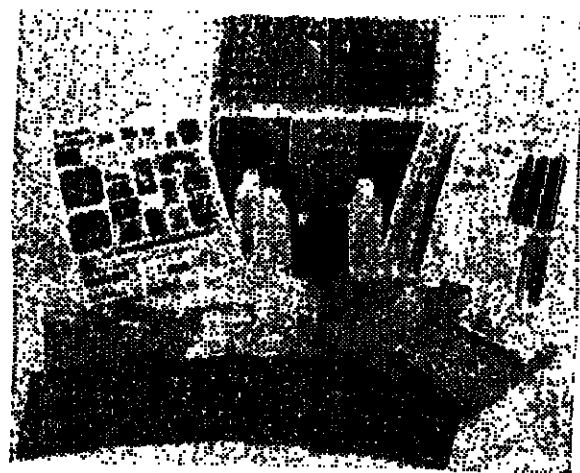
Roy Richards is director of the *Learning Through Science* project, assisted by Margaret Collis and Doug Kincaid.

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SPACESHIP EARTH

AN ENVIRONMENTAL SCIENCES MODEL

By David R. George

It seems to be critical these days that we should be developing students into effective decision makers who have a real sense of trusteeship for Spaceship Earth. This can be implemented by means of an effective environmental science course. The model below is action orientated and includes processes and techniques advocated by leading environmentalists.

An environmental science course should assist children in understanding a basic Spaceship Earth philosophy which should permeate the whole course. The concepts in the model encompass far more than is indicated there and seek to create an awareness, knowledge and understanding of the living and non-living world and their complex inter-relationships; the social, political, economic influences of people and the need for and processes of decision making which should motivate the learner to adopt a life style compatible with environmental quality.

These major concepts become principles as they have broad implications and then they may assume the characteristics of a universal law. In physics, for example, where gravity is a universal force, it is comparatively easy to list principles such as those of Archimedes.

There have been few attempts to formulate sets of principles in environmental science. Because of its integrated approach it borrows concepts from many fields. This is its strength, but also its weakness in gaining academic recognition.

Much of the data for environmental problems are based on the natural sciences. Responsive action on these problems is the domain of the social sciences, especially geography, such as in land use planning, and political science.

Two basic processes are an integral part of environmental science and these are the problem solving and the making of value judgments essential to developing and carrying out exercises and making decisions. These problem solving skills include (a) recognizing a problem, (b) defining environmental problems, (c) collecting information, (d) organizing and analyzing information, (e) suggesting solutions and lastly developing a plan of action.

The foregoing involves choice. Choices come from individual beliefs, attitudes and value judgments which environmental science courses cannot avoid because an individual's valuation determines his decisions and subsequent behaviour. For example, in everyday life, the learner sees a valley polluted produced by technology in his efforts to satisfy consumer demands. Because it is easy to get caught up in the consumer society the learner needs to examine his way of living and the influence upon his life.

The next stage in our model is the teaching methods we adopt. The following analysis indicates several ways of teaching:

There are several ways one could take a class of children across a stream. One is to carry each individual across. Or, since you have Wellington boots on you can wade across and tell the children to find their own way. Or you can point to the stepping stones and guide the children across.

The role of the teacher of environmental science is to create a learning environment to assist students in acquiring knowledge, provide guidance to the student and encourage the learning process itself. Environmental science lends itself admirably to first-hand discovery learning, so the third method of crossing the stream is the teaching method to adopt.

At the bottom of the model there are some suggestions of what the emphasis lies at different stages of development. The emphasis in the early years is an awareness of the world as a whole, the emphasis in the later years is the development of building knowledge, developing skills and building up a philosophy for the environment.

A young learner should be given ample opportunities to explore his immediate environment with all of his senses. It is here that we should be encouraging the child's perception through the eyes and yet we encourage young people to observe and often not to perceive. He should be taught to judge the quality of his immediate environment. An urban child who has never experienced clean air, uncrowded housing, safe streets and unpolluted water may not have the quality "measuring stick" by which to judge his own environment. At the same time urban children should have the opportunity of growing plants and rearing animals

both because this gives them the chance to use their senses and give them a sense of responsibility for their own food. Environmental science has a major contribution here because, I suggest, we shall need to be more self-sufficient in the future. Come in natural products technology and continued on opposite page

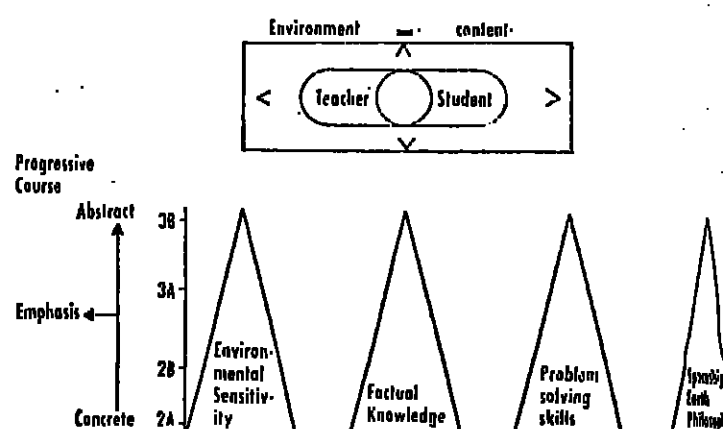
Environmental Science model

Philosophy: Spaceship Earth; Trusteeship attitudes.

Concepts: Ecosystems, populations, natural resources, economics, evolutions, production systems, urban environment.

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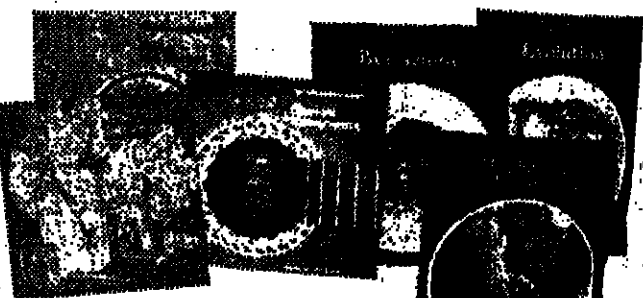
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"Spaceship earth" continued

ground to arise. The old rural spaces still has an active role to play in the course of development here. The course should include: Growing, parks and botanical gardens. Plants for food, ornament and economical use. Rearing and caring for animals. Factory farming. Weather observations and running a meteorological station. Studies of the local environment; observation, classification, experiment and communication. Making collections, sorting things and the use of keys, surveys, maps original records, interviews, use of relevant literature. Natural communities and artificial communities.

Further experiences: visits to museums, field and urban study courses, exchange visits. Compensating experiences (rural versus urban). The quality of the experience should be emphasized. Conservation of resources. Geology, soil, water supply, resource use and recycling, energy, pollution. Multiple land usage. Planning, land and leisure, environmental quality.

This, I suggest, is a basic course for children in the middle years of education and combines geography, history and science—rural science as an integrated study. The integrated approach to learning through, from and for the environment has enormous benefits. It allows children and teachers to work together in an informal way thus enabling personal relationships to develop more readily. It allows children to learn from direct experience and allows a spirit of cooperation to develop by provoking discussion and healthy attitudes to form based on facts. It helps to make children environmentally aware citizens with a sense of personal responsibility for the environment.

Such an image might have been true up until the end of the 1950s, but since then geology has undergone a fundamental change, experiencing a conceptual revolution on a par with those experienced by the other sciences (such as those initiated by Copernicus, Newton, Darwin and Einstein). This "new geology"—plate tectonics—is so elegant, yet so simple, that it can be understood by pupils of most ages. Now that the Earth's crust is envisaged as consisting of a series of rigid plates interacting with one another, growing at mid-ocean ridges, and forming mountain ranges where they collide, geology has a theory that integrates most of the data accumulated over the past 150 years. Moreover the theory also has predictive value in both exploration programmes for natural resources, and in connexion with natural disasters such as earthquakes and volcanic eruptions.

I do not intend to press geology's claim to be in the school curriculum in its own right, but rather emphasize its great potential as a contributor to the other sciences. But while I recognize that the professional training of most science teachers has included some geology, I still believe there is potential for aspects of the geological sciences to be used in the teaching of the "big three" science subjects.

I have two causes for optimism. First, a survey conducted by the Association of Teachers of Geology of all GCE examination centres showed that one quarter of them included geology candidates (IEA was lowest with eight per cent, Wales highest with 47 per cent, and regions such as the Home Counties, Avon, and Yorkshire in the high thirties). Since 1974, geology has continued to grow as an examination subject, so the proportion of centres has probably increased too. These results suggest

THE MISSING COMPONENT

Chris Wilson discusses the place of the geological sciences in the science curriculum

It is strange that in an era when great stress is laid on the importance of including in the curriculum courses that are topical and relevant to pupils' everyday lives, that geology as a school science subject is largely overlooked.

Stranger still is the fact that the Inspectorate for Curriculum 11 in 1976, though laying great stress on "science for action" and "science for citizenship", failed to include any mention of geological topics or concepts.

The relevance of the solid earth sciences to our everyday lives is constantly in the news. Hardly a week goes by without reports of new oil discoveries around our shores, new coal reserves on land, the increasing rate at which the world consumes its reserves of physical resources, and the sad frequency of natural disasters caused by processes such as earthquakes, volcanic eruptions, landslides, and floods. In addition the results of lunar and planetary exploration are continually forcing us to look at our own planet in new ways. But it cannot be denied that school geology is still seen as a minority subject—it provides only two or three per cent of GCE candidates, and even then it is often still seen as a "dead" subject.

Geography at school level although today this reflects the backgrounds of those teaching geology rather than the reality of the links themselves. Many science teachers probably still see geology as a subject pursued by bumbling, carrying-centuries, and a discipline that is the handmaiden of geography in the school situation.

Such an image might have been true up until the end of the 1950s, but since then geology has undergone a fundamental change, experiencing a conceptual revolution on a par with those experienced by the other sciences (such as those initiated by Copernicus, Newton, Darwin and Einstein). This "new geology"—plate tectonics—is so elegant, yet so simple, that it can be understood by pupils of most ages. Now that the Earth's crust is envisaged as consisting of a series of rigid plates interacting with one another, growing at mid-ocean ridges, and forming mountain ranges where they collide, geology has a theory that integrates most of the data accumulated over the past 150 years. Moreover the theory also has predictive value in both exploration programmes for natural resources, and in connexion with natural disasters such as earthquakes and volcanic eruptions.

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SCIENCE AND SOCIETY

Michael Coyle previews BBC School Television

Science has been tainted by the association it made to the human disaster of Hiroshima, Vietnam, Cambodia and Srebrenica. So people, including scientists, are beginning to say that it is time to stop, time to re-think and re-state the contract between science and society.

This is the central theme of a new three-part drama, *The Scientists*, in the series "General Science" for sixth forms which will begin on BBC School Television on November 13, at 11.45 am. This specially commissioned production is set in science fiction, but the issues examined are the science of the present debate on genetic engineering. The roots of the kind of debate are traced back through Darwin to Galileo.

The aim of the programmes is to encourage the audience to question the role of science in a constructive way but not to fall into the trap of polarizing the issues into pro and anti-science.

The history of science is full of crises of a kind. The popularly advanced philosopher, struggling against the odds with the repressive establishment and being forced to reform his idea that the earth revolved around the sun. In this regard Pope Urban VIII was the victim of the piece because, as we now know, he was wrong and Galileo was right. The earth does revolve around the sun.

But was Galileo right? Is the popular view the right one? After all, Galileo had no proof that the earth went round the sun. His attempt at a proof, based on movements of the tides, was off the mark and he died in prison for the crime of heresy. The tide was against him. The tide was against him. The tide was against him.

The Church, in the shape of Cardinal Bellarmine, had even gone as far as to say to Galileo that if he could provide a proof the church would have to retract its position. Galileo was right, but for the wrong reasons. But who remembers?

To complement these drama programmes, *Genetics and Society* will also be broadcast. This series of three factual documentary programmes in the output for the spring term. The first programme, *The Discoveries*, will be broadcast on March 12 at 11.45 a.m. This is an introduction to the history of genetics from biblical times to current genetic engineering. The second programme, *Genetics and Food Production*, looks at the ways in which animals and plants are being redesigned to give us more food more economically. The third programme, *Genetics and the Future*, continues on page 54

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TES - The weekly for news about education at all levels - including vocational training.

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THE TIMES Educational Supplement

SECONDARY Modern Languages continued

WILMINGTON
 (London Borough of) WILMINGTON SCHOOL, 100 WILMINGTON ROAD, WILMINGTON, WIMBORNE, Dorset, DT9 8JH. Number on roll 120. 11 to 16. Headmaster, B. G. 10th, M.A. 1956.

Required for January, 1979, a CHAIRMAN of the MODERN LANGUAGES DEPARTMENT. The successful candidate will be responsible for the co-ordination of the department and will be expected to have a good knowledge of the languages concerned. The post is full-time and involves a considerable amount of travel. The successful candidate will be expected to have a good knowledge of the languages concerned. The post is full-time and involves a considerable amount of travel.

OXFORDSHIRE COUNTY COUNCIL
 LAURENCE SCHOOL, 100 WILMINGTON ROAD, WILMINGTON, WIMBORNE, Dorset, DT9 8JH. Number on roll 120. 11 to 16. Headmaster, B. G. 10th, M.A. 1956.

INDONESIA
 100 WILMINGTON ROAD, WILMINGTON, WIMBORNE, Dorset, DT9 8JH. Number on roll 120. 11 to 16. Headmaster, B. G. 10th, M.A. 1956.

ITALY
 100 WILMINGTON ROAD, WILMINGTON, WIMBORNE, Dorset, DT9 8JH. Number on roll 120. 11 to 16. Headmaster, B. G. 10th, M.A. 1956.

KENT COUNTY COUNCIL
 100 WILMINGTON ROAD, WILMINGTON, WIMBORNE, Dorset, DT9 8JH. Number on roll 120. 11 to 16. Headmaster, B. G. 10th, M.A. 1956.

REDBRIDGE
 100 WILMINGTON ROAD, WILMINGTON, WIMBORNE, Dorset, DT9 8JH. Number on roll 120. 11 to 16. Headmaster, B. G. 10th, M.A. 1956.

ROTHSCHILD
 100 WILMINGTON ROAD, WILMINGTON, WIMBORNE, Dorset, DT9 8JH. Number on roll 120. 11 to 16. Headmaster, B. G. 10th, M.A. 1956.

WIMBORNE
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NOTTINGHAMSHIRE COUNTY COUNCIL

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TAMM SLIDE

LITTLEBORN BOYS' SCHOOL
 1101
 Disbursed, Manchester 15 7LF
 Required from January, 1979, or
 before if possible—
 ASSISTANT TEACHER—MAY BE
 10.50 p.w. 50 hours p.w.
 Application forms and further
 details from the Head for 2 of
 the above school. Tel: 11166
 119.

WALSALL
 Metropolitan Borough
 EDUCATION SERVICE
 RAHUL BHACON COMPREHENSIVE
 SCHOOL
 200 Hill Lane, Aldridge, Walsall
 B47 9JL

Other Posts on Scale 2 and above

BUCKINGHAMSHIRE
Aylesbury Vale Division
JOHN COLLET COUNTY
SECURITY
Wharf Road, Wendover
Head Teacher: G. W. Newman.

Application form (H.A.E.) from
Headmaster.

BUCKINGHAMSHIRE
WYCOMBE DISTRICT

Address: 1000 N. WILLIAM ST., APT. 10
BOSTON, MASS. 02114
Phone: 617-552-1234
Funded 1624
Number of girls: 630 boys
Number of girls: 630 boys
Location: 1000 N. WILLIAM ST., APT. 10
Required January, 1979, or earlier
Application deadline: 1979, or earlier
Throughout the school year
Not available for a suitable cause
Removal expenses up to \$1000
and housing allowance needed
Removal fee payable in 4 equal
instalments
Applications by letter to 1000
N. WILLIAM ST., APT. 10, BOSTON,
MASS. 02114
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Number of girls: 630 boys
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and housing allowance needed
Removal fee payable in 4 equal
instalments
Applications by letter to 1000
N. WILLIAM ST., APT. 10, BOSTON,
MASS. 02114

CUMBERIA
EDUCATION COMMITTEE
ST. JOSEPH'S SCHOOL,
Warrington

Required for January 1979:
1. A **TEACHER** of HIGHER
The position carries the responsibility for the organisation, a teaching of the subject to O and A level.

A Scale 2 post is available to an experienced candidate. The successful candidate will be giving the names of two referees within 14 days.

DORSET
DONET FILABETH'S SCHOOL

Winnhorpe
15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849

SOUTHWESTERN TECHNICAL
LEADERSHIP PROGRAM
LECTURER GRADE I available January 1971. Ref. D.G. HIGHAM
SUBJECTS OF A.C.E.I.

For further details see advertisement under "College of Education column."

GLOUCESTERSHIRE
HIGH SCHOOL
Head of LEAD of PHYSICS for 1971-72. Salary £6,000 p.a. plus pension. Post starts in January 1971. The school is a new built comprehensive school. Responsibility includes examination work at O and A level.
On-leaver letter including

agricultural vine to the Montford
Woodman School, Beachley Road,
Cirencester, Gloucestershire,
England. NPS 7AA, (Telephone
02908 5346), Enclosure 8.
For further details.

HAVERING
(London Borough of)
EDUCATION DEPARTMENT
BEDFORDS PARK SCHOOL,
PO BOX 178, HAVERING
Angley Drive, Havering, Essex
(11 to 18 comprehensive
situated on two sites linked by
a bridge)
(B.E.A. allowance £201 to £276
pup/yr)

Enthusiastic ORATIONS as a result of the "Goodbye" would also be a strong possibility for either chemistry or physics. A minimum of college level work depending upon qualifications and experience. Will be required to do some research, plus spend some time to supplement extensive knowledge and understanding of a well-equipped department with Technical Assistants.

Full details of posts and procedures available on request.

There is a scheme for reimbursement of expenses.

Letters of application to Headmaster giving full curriculum vitae and quoting two referees.

HAVINGG
(London Borough of)
EDUCATION DEPARTMENT
FOREST LODGE SCHOOL
(1000) (1000)
Lodge Lane, Collier Row
Hornsea, Essex
This is a comprehensive
situated on one site in modern
buildings on edge of green belt.
Required, January, 1979:

A TEACHER OF PHYSICS
to replace science department
teacher who has retired.
Applicants should send

an emphasis on the 1970's, are and temporary may be to circumvent and further from the school as well as the year and has remained in 1970.

work to "A" level. A School point would be available for a while. Candidates. The library is located in seven well-equipped laboratories and offices. A course in the future main science. There is a scheme for research expenses.

Letters of application to the University, giving full curriculum and reading lists, reference

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دولت علیہ

Lancashire

County Council

EDUCATION COMMITTEE

Closing date: 9th October, 1978

Primary and Special Schools

For application form send stamped addressed foolscap envelope to Chief Education Officer, P.O. Box 61, County Hall, Preston, PR1 8R, unless otherwise stated.

Secondary Schools

Forms/further details from and returnable to the Head-teacher at the School, S.A.E. please.

PRIMARY SCHOOL

HEADSHIP
LANCASTER CHURCH C.E. PRIMARY SCHOOL
(100 on Roll 778)
January, 1979.
Infant/Junior.
Headteacher, Group 5.

SPECIAL SCHOOLS

MASTERS/MISTRESSES

BLACKBURN, DAME EVELYN FOX SPECIAL SCHOOL
January, 1979.
Infant/Junior.
Scale 1.
ESSEX Team Teaching.
BLACKBURN, BLACKMOOR NURSERY UNIT
January, 1979.
Nursery Age children.
Scale 1. Head on coverage.
BLACKPOOL, WOODLANDS SCHOOL (73 Mixed) (E.S.N.)
January, 1979.
Scale 1—experience with mentally handicapped children desirable.

SECONDARY SCHOOLS

HEADS OF DEPARTMENT

BLACKBURN, JOHN RIBBY R.O. HIGH SCHOOL (820 Mixed)
North Road
January, 1979.
Head of English (Grades),
Scale 4.
RAVENHURST, ALL SAINTS R.O. HIGH SCHOOL (660)
Hawthorn Road, Ravenhurst, Rossendale
1st January, 1979.
Head of Modern Languages.
Scale 4.

BACUP AND RAWENSTALL GRAMMAR SCHOOL (610-100, 200-100)
Waterloo, Rossendale
1st January, 1979.
Head of Music.
Scale 2.

ROTHWORTH, PRIORY HIGH SCHOOL (1,000 mixed)
Crown Hill Road, Rothworth, Preston
1st January, 1979.
Head of Mathematics.
Scale 4.

SCALE 2 POSTS AND ABOVE

BLACKBURN, SHADWORTH HIGH SCHOOL (1,212 mixed)
Blackburn Road
January, 1979.
English, Second in Department.
Scale 3.

BLACKPOOL, PALATINE HIGH SCHOOL (1,000 mixed)
St. Anne's Road
January, 1979.
Biology and General Science, and Year Head.
Scale 3.

THORNTON CLEVELAY HILLFIELD HIGH (1,020)
Baiters Road, Thornton Clevelays
January, 1979.
Chemistry—graduate preferred.
Scale 2.

BLACKBURN, WITTON PARK HIGH SCHOOL (1,100 mixed)
Baiters Lane
January, 1979.
Workshop and Engineering. Excellent workshop facilities.
Scale 2.

WHITWORTH HIGH (800)
Hawthorn, Whitworth, Nr. Rossendale
1st January, 1979.
Metalwork.
Scale 2.

ROTHWORTH, FLYDE HODGSON HIGH (1,000)
Hawthorn Road, Rothworth, Preston
1st January, 1979.
Senior Teacher.

SCALE 1 POSTS

LANCASTER OUR LADY'S R.O. HIGH SCHOOL
Hawthorn Road
1st January, 1979.
Religious Education.
Scale 1.

LANCASTER THE CASTLE COUNTY SECONDARY SCHOOL
Crag Road
1st January, 1979.
English.

THORNTON CLEVELAY HILLFIELD HIGH SCHOOL (1,020)
Baiters Road, Thornton Clevelays
January, 1979.
Woodwork/Metalwork (2nd Adv.).

BLACKPOOL, GREENLAND HIGH SCHOOL (1,000 girls; 70-100)
1st January, 1979.
Mathematics.

BLACKPOOL, ST. MARY'S R.O. HIGH SCHOOL
St. Mary's Road
1st January, 1979.
English.

CROSTON, THE BISHOP RAWENSTON C.E. HIGH
(110-100—800 Mixed)
1st January, 1979.
Mathematics and Boys' Physical Education.

BLACKBURN, NOTRE DAME R.O. HIGH SCHOOL (488 mixed)
Whitby New Road
1st January, 1979.
History and Religious Education.

MOUNT CARMEL R.O. HIGH SCHOOL (1,200 on roll)
Carmel, Blackburn
1st January, 1979.
General Subjects including Art.

WHITWORTH HIGH (800)
Hawthorn, Whitworth, Nr. Rossendale
1st January, 1979.
As soon as possible.

REMPOLD, MATTHEW AND ENGLISH

SECONDARY

Technical Studies continued

ESSEX

CITY OF WAKEFIELD

TECHNICAL STUDIES

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for 15 hours per week, a necessary requisite
for any teacher wishing to apply
Hill Home School, 18 Gravelly Hill North, Erdington is a therapeutic
community Home School catering for 38 resident and 16 day pupils
from late January 1978.
and will be expected to teach in both the open and secure units and
as a Principal (education).
post but accommodation may be available in the first instance.
Mr. C.R. McKail, The Principal or Mr. F. Wilkinson, The Deputy,

Ref. 051/11M/78/632

F GENERAL AND REMEDIAL SUBJECTS (Non Resident)

ditions of Service Houghton/Burnham Scale 2
2300 additional allowance (under review)

an Hill, Blackwell, Nr. Bromsgrove, Worcs is an Observation and
catering for 27 boys and girls. The person appointed will be expected to
the pupils and make recommendations for their future educational needs.
with psychiatrists, psychologists, schools, residential social workers and
and speech therapists at case conferences and the courts.

Ref. 051/11M/78/633

establishments. For Resident Officers, board and accommodation charges
Resident Officer when required to sleep in would receive an additional
payment of £2.01 per night.

RIES QUOTED INCLUDE ALL PAY SUPPLEMENTS,
or female, may obtain application forms (returnable by 23rd October,
1978) and further details from:

ersonnel Officer, Social Services Department,
House, 15 Livery Street, Birmingham B3 2PE.

Please quote reference.
Convexing will disqualify.

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SHEFFIELD EDUCATION COMMITTEE

YOUTH SERVICE

VACANCIES OCCUR FOR

FULL-TIME ASSISTANT YOUTH WORKERS

at

Neighon Centre
Burgess Road Youth Club
Colley Campus Youth Centre
Earl Marshall Campus Youth Centre
Park Youth Club

Applications are invited from suitably qualified persons. In-service training and supervision are available to enable the persons appointed to develop a full range of Youth Work Skills. Salary scale 1, N.C. Qualified - £3,174-4,038.

Application forms and further details are obtainable from the Chief Education Officer (Ref. 19/10/78) Education Department, P.O. Box 47, Leopold Street, Sheffield S1 1RZ, which should be returned without delay.

CITY OF MANCHESTER

EDUCATION COMMITTEE

NORTH MANCHESTER AREA

OF COMMUNITY EDUCATION

MILES PLATTING COMMUNITY

EDUCATION CENTRE

Holland Street, Manchester M10 7AF

Required as soon as possible, a

COMMUNITY EDUCATION WORKER (C.E.43)

with appropriate qualifications and experience to be a member of a team assisting initially in the development of a Community Education Centre in the Miles Plating area of Manchester, to promote the integration of the centre into the local community and to assist the head in achieving this development in an area of social disadvantage. The post will include outreach work with young people and those unemployed and socially disadvantaged. Applications will be welcomed from people experienced in one or more of the following areas of work, i.e. youth, community/adult education. Salary: Burnham F.E. Lecturer II, £4,101-£5,588.

Forms and further particulars to be obtained from the Towns and Further Education Area of Community Education, Abraham Moss Centre, Crescent Road, Manchester, M14 6UP, telephone number 795 5996, to whom they should be returned by not later than 13th October, 1978.

BARNESLEY METROPOLITAN BOROUGH

COUNCIL

EDUCATION DEPARTMENT

COMMUNITY EDUCATION

TUTOR

WOMBWELL

Applications are invited for the above post. Applicants should be qualified youth workers or teachers with youth experience. The responsibility of the Tutor will be for the development of Community Education at field level within the catchment area of the Wombwell Comprehensive School and the successful applicant will work under the supervision of a Community Education Officer. Salary and conditions of service are in accordance with the Lecturer I Scale of the Burnham FE Report. Please send SAE to the Education Officer, 50 Huddersfield Road, Barnsley for further particulars and application form. Completed forms required within 14 days of this advertisement.

STRATHCLYDE REGIONAL COUNCIL

RENFREW SUB-REGION

EDUCATION DEPARTMENT

YOUTH WORKER

The above post is part of an urban aid project in the Lower Bow area, Greenock, and the likely duration is three years. Salary scale: £3,551-£4,832 or Y and O £3,455-£4,500 according to qualifications held. Applicants should hold diploma in qualifications held: education/social work management, Youth and Community Studies or appropriate social work qualification. Duties include carrying out the requirements of the joint education/social work management team in the development and supporting the existing provision for young people in the area. Salary ranges are inclusive of supplement.

Application forms may be obtained from the Assistant Director of Manpower Services Regional Office, Cotton Street, Paisley, to whom completed forms, quoting ref. R64 should be returned by 13th October, 1978.

R. M. O. McCulloch, Director of Manpower Services

YOUTH AND COMMUNITY SERVICE continued

HAMPSHIRE

EDUCATION COMMITTEE

YOUTH SERVICE

VACANCIES OCCUR FOR

FULL-TIME ASSISTANT YOUTH WORKERS

SAE to Head for details

LANCASHIRE

EDUCATION COMMITTEE

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CITY OF MANCHESTER

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